DOCUMENT RESUME

ED 082 057 CE 000 364

AUTHOR	Cascio, Wayne F.
TITLE	Value Orientation, Organizational Rewards, and Job Satisfaction.
INSTITUTION	Rochester Univ., N. Y. Management Research Center.
SPONS AGENCY	Office of Naval Research, Washington, D.C. Personnel and Training Research Programs Office.
REPORT NO	TR-82
PUB DATE	10 Aug 73
NOTE	98p.
AVAILABLE FROM	National Technical Information Service, Springfield, Va. 22151 (MF $1.45 HC price not quoted)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Comparative Testing; *Job Satisfaction; Models; Motivation; *Orientation; Predictive Ability (Testing); Predictive Measurement; *Rewards; Surveys; Test Interpretation; Test Selection; *Values
IDENTIFIERS	JAS; JDI; Job Attitude Scale; Job Descriptive Index; Lawler Porter Model; Survey of Work Values; SWV; WIFE; Work Itself Work Environment Questionnaire

ABSTRACT

The nationwide sales force (N=540) of a large food and beverage firm responded to a mail survey designed to investigate the role of value orientation as a moderator of the relationship between organizational rewards and job satisfaction. Of the two main elements in the investigation, the first was concerned with the predictive efficiency of two different measures (one ipsative and one normative) of intrinsic-extrinsic orientation, and the second was an empirical test of some predictions from the Lawler-Porter model, using the orientation measures which were derived from the first part of the study. Results indicated that the normative instrument (Survey of Work Values) was most predictive of both intrinsic and extrinsic value orientation. (AG)

ED 082057

SCOPE OF INTEREST NOTICE

The ERIC Facility has assigned this document for processing to: CE TM

In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Graduate School of Management

Management Research Center

University of Rochester

CE 000 364

FILMED FROM BEST AVAILABLE COPY

MANAGEMENT RESEARCH CENTER
(1972 - 73)

BERNARD M. BASS, Ph.D., Director
GERALD V. BARRETT, Ph.D., Associate Director

RESEARCH ASSOCIATES

RALPH A. ALEXANDER, M.A.
WAYNE F. CASCIO, M.A.
EDWARD L. DECI, Ph.D
JOHN A. MILLER, M.B.A.
K.M. THIAGARAJAN, Ph.D.
ENZO R. VALENZI, Ph.D
LEOPOLD VANSINA, Dr. Psych.

RESEARCH FELLOWS

VIVIAN J. SHACKLETON, Ph.D
PATRIK VERVINCKT, Lic. (Masters)

GRADUATE AND RESEARCH ASSISTANTS

STEPHEN ALLISON
LARRY ELDRIDGE
DANA FARROW, M.S.
JOHN FORBES, M.S.
PRISCILLA IRONS
ROBERT KELLOGG, L.L.B.
RUDI KLAUSS, M.A.
JUDITH KRUSELL
DHARAN LUTHRA
EDWARD O'CONNOR, M.B.A.
ZUR SHAPIRO
FRAN SHERWOOD, M.B.A.
ROBERT SOLOMON, M.A.

ED 082057

TECHNICAL REPORT 82

Value Orientation, Organizational Rewards, and Job Satisfaction

Wayne F. Cascio

Graduate School of Management
University of Rochester

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)	2a. REPORT SECURITY CLASSIFICATION
Graduate School of Management University of Rochester Rochester, New York 14627	Unclassified
	2b. GROUP

3. REPORT TITLE

Value Orientation, Organizational Rewards, and Job Satisfaction

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

5. AUTHOR(S) (First name, middle initial, last name)

Wayne F. Cascio

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
August 10, 1973	87	49

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
N00014-67-A-0398-0015	
b. PROJECT NO. NR 151-351	Technical Report No. 82
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

10. DISTRIBUTION STATEMENT

This document has been approved for public release and sale; its distribution is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	Personnel and Training Research Programs Office of Naval Research Arlington, Virginia 22217

13. ABSTRACT

The nation-wide sales force (N=540) of a large food and beverage firm responded to a survey designed to investigate the role of value orientation as a moderator of the relationship between organizational rewards and job satisfaction. From equifinality theory it was hypothesized that individuals who emphasize the intrinsic (extrinsic) aspects of work can achieve the same relative level of overall job satisfaction if intrinsic (extrinsic) organizational rewards match their value orientation. The conceptual form of the model was therefore:

$$J.S. = n - \sum_{1}^{n} (\text{Value Orientation} - \text{Organizational Rewards})$$

It was also hypothesized that those Ss who were high in intrinsic value orientation and low in extrinsic value orientation would view satisfaction with the work itself as the most significant determinant of their overall job satisfaction. Conversely it was hypothesized that those Ss who were high in extrinsic value orientation and low in intrinsic value orientation would view satisfaction with work environment factors as the most significant determinant of their overall job satisfaction.

In order to put the present model into empirical perspective several alternative models of job satisfaction were applied to the same data pool. These were: the direct (Is Now) model, the multiplicative (Importance X Rewards) model, and the alternative discrepancy model (Importance - Rewards).

Results indicated that the normative (Survey of Work Values) instrument was most predictive of both intrinsic and extrinsic value orientation. The

intrinsic subscale of this instrument correlated 0.0 with the extrinsic subscale. The two scales representing intrinsic and extrinsic organizational rewards, however, correlated .41. These results are counter to those reported earlier by Lawler and Porter (1967) and Deci (1971, 1972). A modification of the Lawler-Porter model relating performance to job satisfaction was suggested to account for the positive spillover effect due to the interaction of intrinsic and extrinsic organizational rewards.

A double cross-validation procedure was employed to arrive at the best estimate of the predictive ability of each of the four models of job satisfaction. In order of predictive ability they were: "Is Now" (.55), "Importance-Rewards" (.46), "Orientation-Rewards" (.40), and "Importance X Rewards" (.32). It was suggested that each model could have utility in a specific context and within a well-defined conceptual framework. An attempt was made to relate each model to those contexts in which its use would be most appropriate.

For those Ss high in intrinsic value orientation and low in extrinsic value orientation, satisfaction with the work itself was not the most significant determinant of overall satisfaction. However, satisfaction with work environment factors was the most significant determinant of overall satisfaction for those Ss high in extrinsic value orientation and low in intrinsic value orientation. Finally the high intrinsic/low extrinsic group was significantly more satisfied in terms of overall as well as job facet satisfaction across all facets than the high extrinsic/low intrinsic group. These results were discussed in terms of an organizational climate variable.

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Value Orientation						
Intrinsic						
Extrinsic						
Organizational Rewards						
Job Satisfaction						

DD FORM 1 NOV 65 1473 (BACK)

INTRODUCTION

One of the most frequently researched topics in industrial/ organizational psychology is the relationship of job satisfaction to job performance. Brayfield and Crockett (1955) reviewed over 60 studies bearing on this question and the results were essentially the same as those reported in a much earlier investigation by Kornhauser and Sharp (1932). Correlations between satisfaction and performance were consistently low positive, while the correlations between satisfaction and measures of turnover and absenteeism were consistently strongly negative.

Traditionally it was thought that this relationship between satisfaction and performance meant that satisfaction lead to effective performance. Lawler and Porter (1967), however, proposed a model of the relationship between satisfaction and performance which assumes that overall job satisfaction results from, rather than causes, effective performance. Specifically, performance leads to both intrinsic and extrinsic rewards, and these rewards in turn lead the workers to be satisfied. For this to work properly, extrinsic reward systems must be structured so that effective performance is rewarded, and further, jobs must be designed such that effective performance will allow a person to feel intrinsically rewarded. The Lawler-Porter model proposes that the effects of intrinsic rewards (such as recognition, achievement, and personal growth) plus the the effects of extrinsic rewards (such as salary, interpersonal

relationships, and the work environment) will sum to yield overall job satisfaction. Their effects are independent and additive.

Cascio (1972) presented evidence which questioned the validity of this assumption. Numerous studies were reviewed which showed that extrinsic rewards can affect intrinsic motivation; therefore, when both intrinsic and extrinsic rewards are present on a job, the two will be interactive rather than independent. This implies then that satisfaction is not a simple linear combination of intrinsic and extrinsic rewards. Such a fact should be taken into account in the design and enlargement of jobs.

To design jobs which are intrinsically interesting, and then to make rewards contingent on performance would be an appropriate prescription under the additivity assumption; the non-additivity evidence, however, suggests that this prescription would lead to having the extrinsic rewards decrease the intrinsic motivation which was elicited by the newly designed job.

Cascio further suggested that people differ in the extent to which they are intrinsically and extrinsically oriented. Therefore if some people are oriented primarily toward the achievement of intrinsic rewards, while others are oriented primarily toward the achievement of extrinsic rewards, then jobs should be designed so as to capitalize on these expectations. Orientation is here defined as a generalized set of expectations with regard to the type of rewards sought by an individual in his job situation.

Cascio (1972) reviewed the job enlargement literature and concluded that "bigger" jobs are not necessarily "better" jobs.

He hypothesized that perhaps one of the reasons why the expected benefits from job enlargement have not materialized is that previous job enlargement efforts have not taken orientation into account. Intrinsically oriented employees respond differently from extrinsically oriented employees. In the former case challenging, meaningful jobs with lots of opportunity for worker participation should pay off handsomely for the individual and the organization. For the extrinsically oriented individual, however, contingency payment schemes, externally mediated rewards, and external controls are appropriate. This type of person is not particularly concerned with on-the-job satisfaction. For him, work is a "necessary evil".

This study is concerned with the effects of individual orientation as a moderator variable of the relationship between rewards and job satisfaction. Specific predictions will be derived from the Lawler-Porter model, and revisions proposed if warranted by the data.

There are two main elements in the present investigation. The first is concerned with the predictive efficiency of two different measures (one ipsative and one normative) of intrinsic - extrinsic orientation. The second element is an empirical test of some predictions from the Lawler-Porter model, using the orientation measures which were derived from the first part of the study.

The Measurement of Orientation

Job Attitude Scale

One approach to measuring orientation stems from the Herzberg (1957, 1966) framework. Saleh (1962) employed the two-factor theory

as a theoretical basis from which he developed the Job Attitude Scale (JAS) to measure intrinsic-extrinsic orientation. According to Saleh, when an employee is motivated and derives satisfaction from performance of the job itself he is considered to be intrinsically motivated. In other words a person is intrinsically motivated to perform some task if there is no apparent reward for performance except the activity itself and the feeling of satisfaction or enjoyment which is derived from doing the activity. Alternatively one is extrinsically motivated to perform the task if he does it primarily for some external reward. For the intrinsically oriented person, therefore, the activity is an end in itself, whereas for the extrinsically oriented individual, the activity is a means to some end.

This classification of factors into intrinsic and extrinsic is primarily ascribed to Herzberg (1957, 1966). After interviewing over 200 engineers and accountants Herzberg and his associates concluded that job satisfaction consisted of two separate and independent dimensions: the first dimension was related to job satisfaction, and the second dimension to job dissatisfaction. These dimensions are not opposite ends of the same continuum, but instead represent two distinct continua. High satisfaction is not brought about by the absence of factors that cause dissatisfaction. Those job characteristics that are important for, and lead to job satisfaction but not to job dissatisfaction are called "satisfiers", while those that are important for, and lead to, job dissatisfaction but not to job satisfaction are classified as "dissatisfiers." A few job characteristics functioned in both directions.

According to the theory, the satisfiers are related to the nature of the work itself and the rewards that flow directly from the performance of that work. These are called work-related (intrinsic) factors. Presence of these factors leads to satisfaction, and absence of them makes the person neutral. He is not satisfied, but neither will he be dissatisfied since these factors are not related to dissatisfaction.

The dissatisfaction factors are associated with the individual's relationship to the context or environment in which he does his work. These are the extrinsic factors. Comfortable working conditions and fringe benefits are examples of these. When they are present the worker is neutral; when they are absent he is dissatisfied.

In view of this, Saleh (1962, 1964) postulated that intrinsically oriented employees would emphasize such factors as achievement, recognition, responsibility, creativity and challenge, advancement, and growth in skill, while extrinsically oriented employees would be more concerned with company policy, working conditions, interpersonal relationships, and supervision. Saleh developed a measure of orientation which employs six intrinsic and ten extrinsic factors in a paired-comparison, forced-choice format. The sum of an individual's preferences for intrinsic factors over extrinsic factors on those items where an intrinsic factor is paired with an extrinsic factor represents the measure of his intrinsic orientation.

Due to the ipsative format of the JAS, however, if an individual is high on intrinsic orientation he must necessarily be low on extrinsic orientation. Thus intrinsic and extrinsic orientation are viewed as

opposite ends of a continuum representing a single trait. Saleh (1972) readily admits that this inverse relationship may not represent the true state of affairs.

Survey of Work Values

Recently Wollack, Goodale, Wijting, and Smith (1971) have developed a series of scales representing attitudes toward work. The Survey of Work Values (SWV) is based on a number of dimensions of the Protestant Ethic, specifically those aspects which deal with the meaning that an individual attaches to his role at work. According to Wollack et al. the SWV differs from previous scales in that it is directed toward separate areas of values and is limited to the construct of secularized Protestant Ethic (thus eliminating the primarily religious aspects) with which work values seem to be closely linked. As Wollack et al. have stated,

> "Probably the most widely accepted notion of the Protestant Ethic deals with the intrinsic aspect of work; that is, work as its own reward. Work is to be valued because it represents the best use of man's time, not merely because it is instrumental to the attainment of external rewards. The employee high in Protestant Ethic is presumed to prefer working to being idle, to be involved in his work, and to derive considerable satisfaction from doing his job well."

The authors selected three dimensions of the Protestant Ethic that cover the intrinsic aspects of work:

Pride in Work: the satisfaction and enjoyment a man feels from doing his job well.

Job Involvement: the degree to which a worker takes an active interest in co-workers and company functions and desires to contribute to job-related decisions.

Activity Preference: a preference by the worker to keep himself active and busy on the job.

Although the traditional Ethic stressed the intrinsic rewards of work, considerable value was placed on extrinsic rewards as well. The following subscales reflect the extrinsic nature of the Ethic:

Attitude Toward Earnings: the value an individual places in making money on the job.

Social Status of Job: the effect the job alone has on a person's standing among his friends, relatives, and co-workers, in his own eyes, and/or in the eyes of others.

Another dimension of the Ethic was included that does not conform well to the intrinsic-extrinsic dichotomy, and is therefore regarded to be of mixed character.

Upward Striving: the desire to seek continually a higher level job and a better standard of living.

In sum therefore, we have two measures, products of diverse theoretical backgrounds, which purport to measure (among other things) intrinsic-extrinsic orientation. On the intrinsic side we have Saleh's intrinsic orientation and Wollack et al.'s three dimensions of the Protestant Ethic (pride in work, job involvement, and activity preference) which are purported to cover the intrinsic aspects of work. These three dimensions will be combined into an overall intrinsic scale of the SWV.

The commonality among these intrinsic measures is their attempt to measure the value an individual attaches to work itself. The main difference appears to lie in Wollack et al.'s inclusion (and Saleh's exclusion) of the work group as the vehicle through which intrinsic-orientation or SWV-intrinsic is expressed.

Extrinsic orientation is measured by Saleh's extrinsic-orientation, and Wollack et al.'s two scales (attitude toward earnings and social status of job) which reflect the extrinsic nature of the Protestant Ethic. These two dimensions will be combined into an overall extrinsic scale of the SWV. Saleh's extrinsic orientation and the extrinsic scale of the SWV both represent attempts to measure the value an individual attaches to the context or extrinsic aspects of work. The SWV measures extrinsic orientation by using only two of the ten extrinsic factors tapped by the JAS, and both instruments consider the influence of the work group only tangentially. Of the two instruments, only the JAS considers the effect of supervision directly as it affects extrinsic orientation.

Given these differences in definitional emphasis, one wonders if the JAS and SWV are measuring the same thing. If an individual is given the opportunity to rate independently the importance of a universe of job elements, intrinsic as well as extrinsic, presumably his ratings indicate his expectations with respect to what he considers important in his work situation, that is, to which elements of his work situation he is predominantly oriented. Which of these two instruments, the JAS or SWV, is the most efficient predictor (that is, yields the highest number of positive hits) in terms of orientation? The first part of this study is addressed to this question.

Why are we concerned with rated importance as a criterion for orientation? Locke (1969) defines job satisfaction as the pleasurable emotional state resulting from the appraisal of one's job as achieving

or facilitating the achievement of one's job values. It is a function of the perceived relationship between what a man perceives his job entails or offers and what he values. Values in turn have been defined by Rand (1964) and Branden (1966) respectively, as "That which one acts to gain or keep," or "That which one regards as conducive to one's welfare".

Every value has two attributes, content and intensity. Content pertains to what it is the person wants to gain or keep; intensity pertains to how much he wants to gain or keep it. Attaining and failing to attain a more important value produces greater satisfaction and greater dissatisfaction, respectively, than do the same outcomes with respect to a less important value. Satisfaction is therefore a function of the amount of percept-value discrepancy as well as the importance of that value to the individual. These correspond to the two attributes of value-content and intensity.

In the first part of this study we are principally concerned with measuring value orientation, the importance of a given value to an individual. It is this value importance according to Locke, that determines the degree of affect produced by a given amount of percept-value discrepancy. In terms of our measures of orientation, therefore, rated importance is the proper criterion.

Expectancy Theory and the Lawler-Porter Model

One of the most popular approaches to understanding motivation is that of expectancy theory. According to this view, effective work is determined by two variables:

1. effort-reward probability, that is, the individual's expectancy that his performing effectively will result in a given reward, and
2. the individual's perception of the value of the reward (its valence.)

Working within this framework, Vroom (1964) defines a person's motivation to perform a task or job in terms of the relative strength of forces acting on him to exert different levels of effort. These forces will depend upon:

1. the strength of his preference for effective performance over ineffective performance, and
2. his expectancies regarding the consequences of different levels of effort on the attainment of effective and ineffective performance.

In sum expectancy theory says that people are motivated to do things which they feel have a high probability of leading to rewards which they value.

Lawler and Porter's (1967) model fits into an expectancy theory framework, and builds upon the earlier work of Georgopoulos, Mahoney, and Jones (1957), and Vroom (1964). The argument is as follows (see Figure 1). Performance is a multiplicative function of motivation times ability. Motivation in turn is a multiplicative function of valence (the worth or value of an outcome to an individual) times instrumentality (or effort-reward probability; it is the subjective probability that a given level of effort will result in reward).

Lawler and Porter assume that rewards cause satisfaction, that in some cases performance leads to rewards, and therefore the relationship found between satisfaction and performance comes about through the action of a third variable - rewards. Briefly stated, good performance may lead

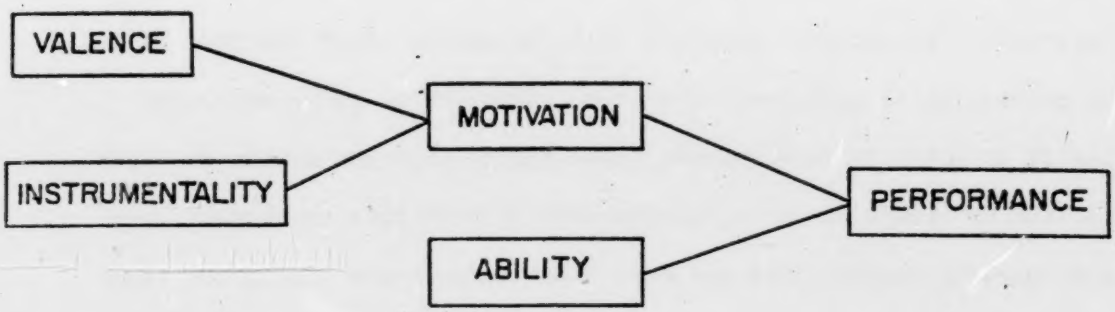


Figure 1. First half of Lawler and Porter's (1967) model.

to rewards, which in turn lead to satisfaction. Thus satisfaction, rather than causing performance as was previously assumed (Brayfield and Marsh, 1953; Gadel and Kriedt, 1952), is caused by it. The model is presented graphically in Figure 2.

The model first shows that performance leads to rewards, and it distinguishes between two kinds of rewards, intrinsic and extrinsic. The wavy line between performance and extrinsic rewards indicates that such rewards are likely to be imperfectly related to performance. Extrinsic rewards such as pay, promotions, status, and security are externally mediated and satisfy mainly lower order needs in the Maslow hierarchy: for example, physiological and safety needs (Maslow, 1954). The connection is weak because of the difficulty of tying extrinsic rewards directly to performance. Even though an organization may have a policy of rewarding merit, performance is difficult to measure, and in dispersing rewards like pay,many other factors are frequently taken into consideration.

Intrinsic rewards are internally mediated, however, and given to the individual by himself for good performance. Intrinsic rewards are subject to fewer disturbing influences and thus are likely to be more directly related to good performance. This connection is indicated in the model by a semi-wavy line. An example of an intrinsic reward is the feeling of having accomplished something worthwhile. Any rewards that satisfy higher order growth needs in the Maslow hierarchy, for example, self-esteem and self-actualization (Maslow, 1954), are good examples of intrinsic rewards.

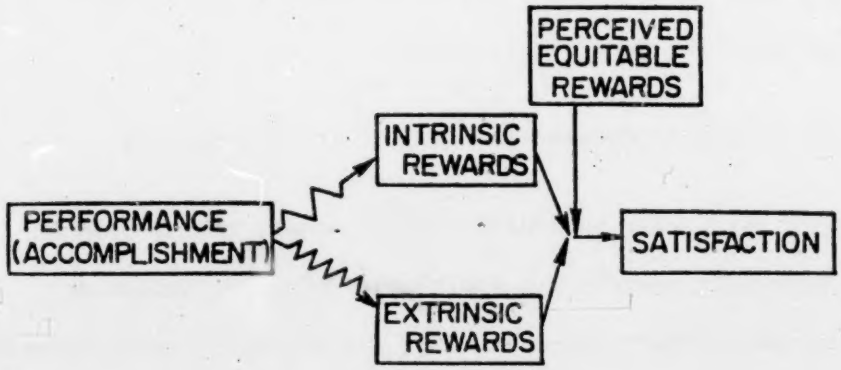


Figure 2. Second half of Lawler and Porter's (1967) model.

The model also shows that intrinsic and extrinsic rewards are not directly related to job satisfaction since the relationship is moderated by expected equitable rewards. This variable refers to the level or amount of rewards an individual feels he should receive as a result of his job performance. Thus an individual's satisfaction is a function both of the number and amount of rewards he receives as well as what he considers to be a fair level of reward. An individual can be satisfied with a small amount of reward if he feels it is a fair amount of reward for his job (Porter, 1961).

The Relationship Between Intrinsic-Extrinsic Rewards

According to the Lawler and Porter (1967) model, the effects of intrinsic and extrinsic rewards are additive. This sum, except as moderated by the individual's perception of the equity of these rewards for performance, leads either to job satisfaction or to job dissatisfaction. If the effects of these two kinds of rewards are independent or additive, then it would seem that the most appropriate job design would be one in which jobs are structured to arouse intrinsic motivation on the one hand, and at the same time provide extrinsic (and contingent) rewards for doing well. In a recent paper, however, Cascio (1972) questioned this assumption. Is participative management, which focuses on intrinsic motivation, compatible with piece-rate payments and other extrinsic reward systems?

Cascio presented the results of a two year laboratory research program which investigated the effects of external rewards on intrinsic

motivation. The overall pattern of results suggested the following interpretation. If a person is intrinsically motivated to perform a certain task and then he begins to receive external rewards or punishments for performing that task, his intrinsic motivation will decrease. In short, contingent monetary rewards (Deci, 1971, 1972), threats of punishment (Deci and Cascio, 1972), and negative verbal feedback (Cascio and Deci, 1972) cause a decrease in intrinsic motivation; on the other hand, non-contingent monetary rewards (Deci, 1972) result in no change in intrinsic motivation, and positive verbal feedback (Deci, 1971, 1972) increases intrinsic motivation for male subjects, but decreases it for females (Cascio, Deci, and Krusell, 1973).

The results of the Deci and Cascio program of research indicate that piece rate payments or other extrinsic reward systems which tie rewards to performance are not compatible with participative management, which focuses on developing intrinsic motivation for performing the task itself, since the contingent payment system will decrease that intrinsic motivation. In sum intrinsic and extrinsic rewards are not independent or additive.

How Important is Work?

It is clear from the interactive nature of intrinsic and extrinsic rewards that extrinsic rewards can affect intrinsic motivation. Furthermore, people differ in the extent to which they are intrinsically or extrinsically oriented. This suggests, therefore, that such information should be taken into consideration in the design or enrichment of jobs.

Individuals differ in how important they judge their work to be in their total lifespace. For some people their work is their central focus; for others it is not. Seeman (1971) speaks of those who are "alienated" from work, that is, engaging in an activity that is not rewarding in itself (i.e. not intrinsically rewarding). The concept of work alienation, however, may not be closely related to total job satisfaction because it implies that the individual receives satisfaction from other parts of his work environment (that is, extrinsic rewards).

For the alienated worker, therefore, job satisfaction may thus represent a process of accommodation to a bad situation. Iris and Barrett (1972) selected two groups of foremen, one which was considered to be in a good job situation and the other in a job situation that yielded less job satisfaction. The two groups could effectively differentiate the overall satisfaction they received from their jobs. For those individuals who were in a bad job situation, the less importance placed upon the work itself, the more satisfaction was found from both life in general and job in general.

Iris and Barrett (1972) concluded that, while all people place some importance upon work itself, the functional consequence of being in a poor job environment can be overcome as the individual attaches less importance to those aspects of the job which are not favorable for him. In other words in many cases the most adaptive course of action might be to downplay the intrinsic aspects of the work and emphasize its extrinsic aspects.

Job Satisfaction Theory and Measurement

What are the implications of these findings for job satisfaction theory and measurement, and in particular for the Lawler-Porter model as presently conceived?

The concept of equifinality (von Bertalanffy, 1950) seems relevant in this context. According to this principle, a system can reach the same final state from differing initial conditions and by a variety of paths. In the case of job satisfaction the same overall level should be attainable from a variety of paths, namely, that path which derives from intrinsic orientation and that path which derives from extrinsic orientation.

If overall job satisfaction can be represented by the sum of satisfactions with different facets of the job, then dissatisfactions with certain job facets can be balanced by satisfactions with other job facets. Recent evidence (Wanous and Lawler, 1972) suggests that it is possible to measure satisfaction validly with different job facets. They investigated the empirical relationships between nine different measures of job satisfaction, and concluded that there are several types of feelings that people have which can be called satisfaction (job facet satisfaction) or which influence their feelings of satisfaction about their job. In the present context these job facets can easily be classified into one of two categories: work itself (intrinsic) or work environment (extrinsic).

It seems logical to hypothesize, therefore, that two people may attain the same overall level of job satisfaction by emphasizing different facets of the job. Those who are primarily concerned with the intrinsic aspects of work will seek to satisfy those job facets concerned with the work itself. Those who are primarily concerned with the extrinsic aspects of work will seek to satisfy those job facets concerned with the work environment. If job outcomes and organizational rewards follow values and expectancies, then the same level of overall job satisfaction should obtain. If the principle of equifinality is valid in this context, then some modification of the Lawler-Porter model would appear warranted. One possible modification is presented in Figure 3.

In sum it is suggested that people differ in their orientation. Some are more extrinsic, some more intrinsic. If someone who is intrinsically (extrinsically) oriented is in a job which offers intrinsic (extrinsic) rewards, then he will be satisfied. However, if the intrinsically (extrinsically) oriented person is in a job which offers primarily extrinsic (intrinsic) rewards, then he will be dissatisfied. Even when a job offers substantial rewards, a person won't be satisfied unless those rewards match his orientation and expectations.

The key notion in this model of job satisfaction is that of the "fit" or "match" between individual orientation, values, and preferences and job outcomes or organizational rewards. According to the conceptual model job satisfaction with each job facet can vary between zero and

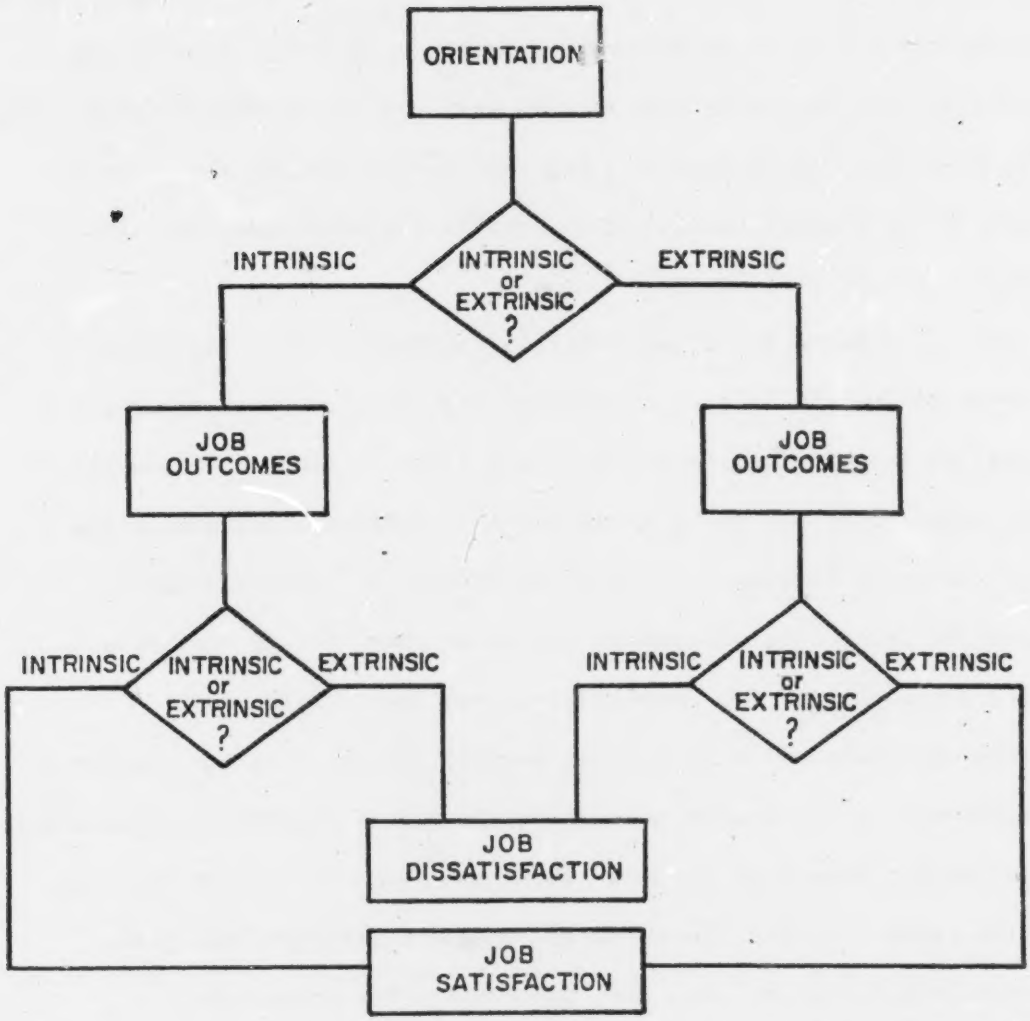


Figure 3. Proposed modification of the Lawler-Porter model.

one and is the result of one minus the absolute value of the discrepancy between individual orientation and organizational rewards. Mathematically the conceptual model is as follows: $J.S. = n - \sum_{1}^{\text{facets}} |O-R|$. Overall job satisfaction can therefore vary between zero and the number of facets. The absolute value of the discrepancy has been chosen because the primary concern in the present investigation is with the magnitude, not the direction, of the discrepancy.

Several hypotheses follow from this framework. H1: The closer the match between individual orientation and organizational rewards the smaller the discrepancy (which in the limit is zero, or a perfect match), and the higher the measured job satisfaction. Conversely the poorer the match between individual orientation and organizational rewards the larger the discrepancy (which in the limit is one, or a perfect mismatch) and the lower the measured job satisfaction.

The dependent variable in H1 is overall job satisfaction. Overall job satisfaction is computed by summing the scores representing satisfaction with different facets of the job. There are five such scores for each S in the present study. These scores represent satisfactions with the work itself, supervision, pay, opportunity for promotions, and co-workers on the job. Hypotheses 2 and 3 will use these job facet satisfaction scores as separate predictors of overall job satisfaction using multiple regression.

H2: For those Ss who are high in intrinsic orientation, low in extrinsic oreintation, and whose job outcomes are intrinsically rewarding, the highest job facet score contributing to overall job

satisfaction will be that which measures satisfaction with the work itself. (This is because their most valent job outcomes are intrinsic to the work itself).

H3: For those Ss who are high in extrinsic orientation, low in intrinsic orientation, and whose job outcomes are extrinsically rewarding, the highest job facet scores contributing to overall job satisfaction will be those which measure satisfaction with the work environment. (This is because their most valent job outcomes are extrinsic to the work itself).

METHOD

Research Setting and Subjects

This investigation was conducted in a large food and beverage corporation and included three major subsidiary companies, each with nation-wide sales representation and product distribution. The specific focus was on the beverage group field sales forces, including field representatives, that is, entry level sales positions, their immediate supervisors (known as state managers), and also the second, third, and fourth supervisory levels of the respective companies. These included regional sales managers, open and control states sales managers, divisional vice presidents, and national sales managers.

Data was collected from approximately 320 field sales representatives (located both in urban and rural areas), 120 district/state/territory managers, 57 regional managers, 28 open/control state sales managers, 12 divisional sales managers, and 3 national sales managers, for a total of 540 respondents.

Procedures

Due to the geographical dispersion of the sales and management personnel the study was conducted by mail. All materials were presented in a single booklet composed of four separate parts, one each representing the Job Attitude Scale (JAS), the Survey of Work Values (SWV), the Job Descriptive Index (JDI), and the Work Itself - Work Environment Questionnaire (WI-WE). Each of these instruments will be more fully described below. The order of appearance was counterbalanced such that each instrument occupied each of four ordinal positions one fourth of the time.

One week prior to the mailing of the booklet, each S received a cover letter from the beverage group senior vice-president explaining the overall purpose of the study, lending top management support to its implementation, asking for the cooperation of the individuals involved, and explaining that the results will be used as a basis for improving the company's policies and practices in a number of key areas. The overall purpose of the study was described as an attempt to get some idea of how employees feel about their jobs and what elements of their jobs are important or unimportant to them. One week later, 785 booklets were mailed to the home addresses of the individual employees. An addressed, stamped envelope was also enclosed. Subjects had two weeks to complete and mail the booklet (unsigned). All booklets were mailed directly to the experimenter.

Page two of each booklet contained a short biographical inventory which included such items as: name of company, immediate supervisory

level, region, race, sex, age, religious preference, place of birth, geographical region lived longest before 18 years of age, geographical region lived longest after 18 years of age, number of times moved, education, length of service with present company, and length of service in present position.

At the top of page 1, subjects were instructed that the booklet contained four parts, that each part was a separate unit, and that they need not complete all four parts at one time. They were also informed that the biographical data found on page 2 would be used for research purposes only. Subjects were then instructed to proceed to Part I, read the instructions, and begin. At the end of Part I subjects were instructed to proceed to Part II, read its instructions, and so forth, until the entire booklet had been completed. At the end of Part IV, each subject was thanked for his cooperation and participation, and asked to mail the entire booklet in the enclosed stamped, addressed envelope.

Instruments and Measures

The Job Attitude Scale (JAS). As described by Saleh (1964, 1971) the JAS consists of 120 items involving 16 statements, each being paired with the other 15 in a forced choice format. Six of the statements represent the following intrinsic factors: achievement, responsibility, recognition, advancement, nature of work, and growth in skill. The other 10 represent extrinsic factors; working conditions, company or organizational policy, salary, security, status, technical supervision, salary needs for family's sake, and interpersonal interactions with supervisor, subordinates and equals.

The subject is asked to indicate in each of the 120 items of the scale which of the two factors will be more satisfying to him as he performs his job. He is also asked to make only one choice for every pair of statements, not to skip any pair, and if he finds it hard to choose between two statements, to make the best choice he can.

For example:

a) Receiving a salary increase (extrinsic)

b) Performing creative work (intrinsic)

The Abbreviated Form: This form includes only the 60 items in which an intrinsic factor is paired with an extrinsic one. It has the same instructions as the complete form.

A general intrinsic score is obtained by giving 1 point whenever the intrinsic factor is checked in the 60 items where an intrinsic factor is paired with an extrinsic one. The possible score range is then 0 to 60. The scoring procedure for obtaining the general intrinsic score applies to both the complete and the abbreviated form.

To test if there is any difference between the results obtained on the complete form and on the abbreviated form Saleh (1971) administered both forms to two groups. Each included hourly, clerical, and supervisory employees. The complete form was administered first to one group (N = 32) and after two weeks the abbreviated form was administered. The order of administration was reversed for the other group (N = 22) to guard against order effect. The means of intrinsic scores, in the first case, were 33.0 and 31.8 for the complete and abbreviated form, respectively.

In the second case, the mean for the abbreviated form, which was administered first, was 34.4, and for the complete form the mean was 32.8. In both cases, the differences were not significant, indicating that the abbreviated form could be used as a substitute for the complete form if the general intrinsic score was the only score required. Since this was the only score required in the present study, as well as for reasons of practicality, the abbreviated form of the JAS was employed. The split-half reliability of the JAS is .94 and the test-retest reliability is .88. Norms for the JAS have been developed along four dimensions: sex, age, education, and occupation. The complete form of the JAS used in the present study is presented in Appendix A.

The Survey of Work Values (SWV). In its present form the SWV employs unweighted multipoint scoring of 64 items presented in a Likert-type format. The subject is instructed to read each statement carefully and then indicate the degree to which he agrees (strongly agree = 6) or disagrees (strongly disagree = 1) with each statement. For example:

Attitude toward earnings: A man should choose one job over another mostly because of the higher wages.

Intrinsic values: A worker should feel some responsibility to do a decent job whether or not his supervisor is around.

Social status of job: My friends would not think much of me if I did not have a good job.

Test-retest reliabilities (1 month apart) for each subscale vary from .65 to .76. According to Wollack et al. (1971) the SWV has met

some of the common criteria for construct validity. First Smith and Kendall's (1963) reallocation procedure demonstrated that the six work values are discriminably different from one another and that the items represent the constructs that they were intended to measure. Second, the internal consistencies (coefficient alpha) of the subscales (ranging from .53 to .66) are relatively high in view of the small number of items comprising each subscale. Third, SWV scores have discriminated meaningfully among occupational groups (Wollack, 1968), and have correlated substantially with background variables that have been associated with other measures of work values (Wijting, 1969). Due to its recent development, however, there are as yet no norms for the SWV. The complete form of the SWV used in the present study is presented in Appendix B.

The Job Descriptive Index (JDI). One of the most carefully researched and well-documented measures of job satisfaction is Smith, Kendall, and Hulin's (1969) JDI. The JDI is a 72-item instrument that measures satisfactions with five areas of a job: the type of work, the pay, the opportunities for promotion, the supervision, and the co-workers on the job. For each area there is a list of adjectives or short phrases, and the respondent is instructed to indicate whether each word or phrase applies with respect to the particular facet of his job in question (e.g. his pay). If a word applies to his pay, he is asked to write "Y" (for Yes) beside the word. If the word does not apply to his pay, he is asked to write "N" (for No) beside the word. If he cannot decide, he is asked to enter a question mark (?). This

format is used to minimize response sets which are more likely to arise if response alternatives are printed in a fixed order on the page. The JDI employs direct weighted scoring according to the following scheme:

Response	Weight
Yes to a positive item	3
No to a negative item	3
? to any item	1
Yes to a negative item	0
No to a positive item	0

The validity of the JDI was assessed in a series of four studies employing very different samples (e.g. employees of a farmer's cooperative, electronics industry employees, and undergraduates) and different measures (e.g. interview ratings, graphic ratings, and the direct "Faces" scale, Kunin, 1955). A modification of the Campbell and Fiske (1959) method for establishing convergent and discriminant validity, namely, cluster analysis or principal components analysis, was used in all studies. The complete factor analytic and cluster analytic results are too unwieldy to report here; the interested reader is referred to Smith, Kendall, and Hulin (1969). Suffice it to say that the JDI exhibits satisfactory convergent and discriminant validity. Median item validities range from .35 (satisfaction with co-workers) to .52

(satisfaction with promotions). Split-half internal consistencies for each scale, corrected to full length by the Spearman-Brown formula, range from .80 to .88.

There are numerous correlations above .7 and .8 between JDI measures and other measures of satisfaction obtained by different methods, either concurrently or with very short time intervals. These data indicate lower bounds of the reliability of the JDI (Smith, Kendall, and Hulin, 1969).

As Smith et al. (1969) point out, there are several advantages to using the JDI as a measure of job satisfaction. First of all, it is directed toward specific areas of satisfaction rather than global or general satisfaction. Several different areas of job satisfaction must be measured separately if any substantial understanding is to be achieved. This does not imply that satisfactions in several areas are necessarily statistically independent, but it does provide for those important situations where there are discriminable differences which the respondent can report with some assurance.

Second, the verbal level required to answer the JDI is quite low. In one plant studied, the modal educational level was fourth grade, yet all the respondents who could read English at all were able to complete the JDI.

Third, the JDI does not ask the respondent directly how satisfied he is with his work, but rather it asks him to describe his work. Thus, the responses have a job-referent rather than a self-referent. In

describing his job, the respondent does, however, provide information which may be used to infer his satisfaction. Some of the description involves the use of words which are evaluative (e.g., satisfying, good) as well as those which are objective (e.g., on my feet). In addition, the respondent's attitudes toward his job influence his responses even to the more objective words. Finally, some of the words describe actual objective features of the job situation which influence satisfaction directly (e.g., strict supervision). The complete form of the JDI used in the present study is presented in Appendix C.

The Work Itself - Work Environment Questionnaire (WI-WE). The WI-WE was developed by the staff of the Management Research Center of the University of Rochester. The aim of the WI-WE is to provide a comprehensive inventory of discriminably different job elements, that is, properties of the job itself (for example external feedback, variety, responsibility, and so forth), as well as properties of the environment surrounding the performance of the work (for example, salary, interpersonal relationships, company policy and administration, etc.) which make it attractive to the job holder. The overall aim of the WI-WE is to present a set of elements that reflect both the intrinsic and extrinsic motivational properties of jobs.

A literature review and synthesis of existing theory and data served as a starting point in the development of the WI-WE. These results were then combined with information gathered from interviews with a wide variety of job incumbents to yield a universe of job-related elements. Items were written to cover the full range of scale

values for each of the elements, and then both items and elements were reallocated and scaled by a pool of 150 judges according to the Smith and Kendall (1963) procedure. The results of this procedure provided a measure of construct validation for the items as well as for the job elements.

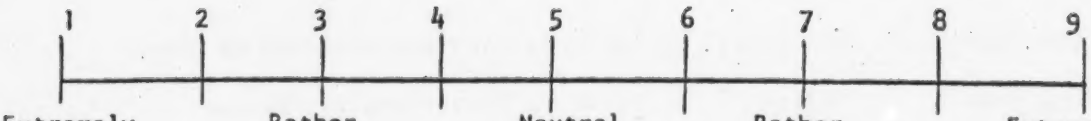
Thirty-nine job elements survived the reallocation procedure and comprised the total universe of job elements related to the work itself and to the work environment. In any given organizational context some of these elements will be more salient or important than others. In the present investigation job elements relating to the nature of the working conditions, task interdependence, responsibility for human life, and so forth, were not particularly significant factors since the job of the salesman was the primary focus. The pool of thirty-nine elements and their definitions was therefore submitted to a panel of salesmen. The salesmen then eliminated those elements which were not particularly relevant to the job context of the salesman.

The initial list of 39 elements was then reduced to a final list of 19. Of these 19 elements ten were related to the work environment and nine were related to the work itself. These nineteen elements, together with their practical definitions, are presented in Appendix D. The exact form of the WI-WE Questionnaire used in the present study is presented in Appendix E.

The measures of perceived intrinsic-extrinsic organizational rewards are the summated ratings of the "How much is there now?" elements of

the respective work itself and work environment sections of the instrument. Instructions to the WI-WE Questionnaire read as follows:

> "The purpose of this part of the booklet is to help us understand how you feel about your job. Please make all judgments with reference to your present job; that is, the job on which you are now working. This questionnaire is a measure of your opinions. There are no right or wrong answers.
>
> As you begin reading, you will notice that an element or aspect of your job will be named, followed by a definition of that element, Under this you will find five statements which express different amounts of this element.
>
> For example:
>
> 1. Interpersonal Relations (Buddies) - How well you get along with your buddies.
>
>   1. I really like the people I work with.
>
>   2. The people I work with make this a better job than it would otherwise be.
>
>   3. Some of the people I work with are difficult to get along with.
>
>   4. If it weren't for the people I work with, this job would be OK.
>
>   5. Many of my problems at work result from the people I have to deal with.
>
> Read each statement and then choose the numbers of as many statements as described "how much" of that element is on your job. Now tear out your separate score sheet (see Figure 4). Next to the name of each element you will find three blanks:
>
> Above the first blank are written the words, "how much is there now?" Write the numbers of the statements that you have chosen in this blank.



Extremely unimportant to me personally — Rather unimportant to me personally — Neutral neither important nor unimportant — Rather important to me personally — Extremely important to me personally

	How much is there now?	How much do you expect in the future?	How important is it to you?
1. Interpersonal relations: Supervisor			
2. Interpersonal relations: Subordinates			
3. Variety			
4. Learning new skills: Necessity			
5. Learning new skills: Opportunity			
6. Follow-through			
7. Independence: Methods			
8. Independence: Pace			
9. Goal clarity			
10. External feedback			
11. Job/person fit			
12. Job security			
13. Work scheduling			
14. Salary			
15. Company policy and administration			
16. Internal feedback			
17. Status inside the company			
18. Status outside the company			
19. Service to others			

Figure 4. Score sheet for WI-WE questionnaire.

Above the second column are written the words, "How much do you expect in the future?" Choose the numbers of as many statements as apply and put them in the blank under column 2.

Above the third column are written the words, "How important is it to you?" Now, notice the top of the scoring sheet. On a scale from 1 to 9 are listed some statements which reflect possible degrees of importance. Please choose one of these numbers and write it in the blank under column 3.

Do the same thing for each element until all the blanks are filled. Please answer all questions.

For example:

	How much is there now?	How much do you expect in the future?	How important is it to you?
Interpersonal Relations	3,4	1,2	7

RESULTS

The Measurement of Value Orientation

Of the 785 booklets that were originally mailed out, 68.5%, or 538, were returned. Of these 538 booklets the vast majority were completely usable. In all analyses to be reported, however, a listwise deletion procedure was employed, whereby a missing value on one variable caused that entire case to be ignored for all variables involved in a particular analysis. Under these conditions, all means, standard deviations, and correlations were based on the same universe of data. In no analysis to be reported, however, did the workable N size drop below 438, unless a specific group was selected, based on certain criteria for a particular analysis. Such exceptions are noted.

The initial objective of this study was to synthesize the best predictor or combination of predictors of intrinsic and extrinsic value orientation from the subscales of the Job Attitude Scale (JAS) and the Survey of Work Values (SWV). The criteria for these analyses were the rated importance of work itself and work environment elements of the WI-WE Questionnaire. That is, either the JAS or the SWV or a combination of the two will be selected based on which accounts for the greatest amount of variance on the work itself and work environment elements, respectively. The correlation between the rated importance of the work itself elements and the rated importance of the work environment elements was .56. It appears then that these conceptually independent criteria are not empirically independent. Therefore, before any further analyses could be performed it was necessary to achieve empirical independence between the two criteria. Item analysis (item-total correlations between all items and the two scale total scores) indicated that although all items correlated highest with the scale for which they were originally intended, many items also correlated substantially with the other scale as well. Plots of the distributions of scale total scores (from the sample of 540 respondents) for work itself importance and work environment importance indicated that these were approximately normal, although somewhat leptokurtic.

Frequency distribution plots for the responses on each item in the respective scales, however, indicated that many of these were badly skewed left. Accordingly an exponential transformation of the form e^a (where e is the natural logarithm base and a is the value of the particular variable) was

applied to the data in an attempt to eliminate the skewness. Such a transformation has the effect of spreading out the distribution, and eliminated the skewness for all variables. The scale totals for work itself and work environment still correlated .56 after the data was transformed. Therefore in order to develop two new scales which would be independent, the pool of items from the questionnaire was first factor analyzed according to the method of principal components with both varimax and oblique rotations.

The factor analysis yielded two relatively independent factors (correlation .22) of which one was clearly a work environment factor and the other a work itself factor. Two scales were then synthesized from the items that loaded on the two factors by utilizing a unit weighting scheme, and a minimum factor loading criterion of .30. The two scales which resulted turned out to be correlated .64, which of course, means that these two scales are even more highly correlated than the original two. Examination of the principal components matrix indicated that the first factor was accounting for 60.9% of the variance, and the second only 11.2%. It appeared that a single general factor was operating, thus making it difficult to formulate two independent scales to measure work itself and work environment.

In order to control statistically for this general effect, it was decided to employ a differential weighting scheme, using the factor score coefficient of each variable on each factor as the appropriate weight. A matrix of factor score coefficients was then derived, and a

differential weighting procedure was utilized, using the semi-complete factor estimate method. If factor scales are built which employ only those variables that have a substantial loading on a given factor, the influence of variables not included in the scale construction is not controlled. They do affect the scale, however, through their inter-correlations with the variables used in the scale. In the semi-complete estimation method, some variables are simply used as suppressor variables to give the best estimate of the given factor. In the present study, any variable with a factor score coefficient greater than $\pm$0.10 was utilized. Of the 19 original variables, 12 were used in the final form of the two scales. Six variables (with either positive or negative factor score coefficients) formed the work itself factor and six variables formed the work environment factor. These variables, together with their factor score coefficients, are presented in Table 1. The two scales correlated .28. In sum, it appears that although the final forms of these two criteria were not completely independent, the reduction in shared variance from the initial form (.31) to the final form (.08) was substantial. Given these two relatively independent criteria, the next task was to synthesize the best predictor or combination of predictors of intrinsic and extrinsic value orientation by utilizing a step-wise multiple regression procedure.

Let us first consider the interrelationships among the ipsative (Job Attitude Scale) and normative (Survey of Work Values) measures of value orientation. The matrix of correlations between the subscales of the two measures is presented in Table 2. The distributions of all

Table 1

Job Elements and Factor Score Coefficients for Work Itself and Work Environment Scales of Importance

	Work Itself		Work Environment
.22	Variety	.24	External Feedback
.48	Independence: Methods	.20	Job/Person Fit
.26	Independence: Pace	.13	Job Security
.11	Job/Person Fit	.38	Company Policy and Administration
-.12	Job Security	.18	Internal Feedback
-.10	Company Policy and Administration	-.12	Follow-Through

Table 2

Correlations Among Measures of Intrinsic-Extrinsic Value Orientation*

	JASI	JASE	SWVI	SWVE	Activity	Work	Involve	Earnings	Status	Upstrive
JASI	1.00									
JASE	-1.00	1.00								
SWVI	.15	- .15	1.00							
SWVE	- .09	.09	.00	1.00						
Activity	.13	- .13	.81	.04	1.00					
Work	.08	- .08	.79	.01	.50	1.00				
Involve	.15	- .15	.80	- .04	.45	.42	1.00			
Earnings	- .13	.13	- .09	.79	- .06	- .08	- .09	1.00		
Status	- .01	.01	.09	.81	.12	.06	.03	.29	1.00	
Upstrive	.26	- .25	.38	.15	.35	.28	.29	.13	.12	1.00

*Explanation of Symbols:

JASI - Intrinsic Scale of the Job Attitude Scale
JASE - Extrinsic Scale of the Job Attitude Scale
SWVI - Intrinsic Scale of the Survey of Work Values
SWVE - Extrinsic Scale of the Survey of Work Values
Activity - Activity Preference
Work - Pride in Work
Involve - Job Involvement
Earnings - Attitude Toward Earnings
Status - Social Status of Job
Upstrive - Upward Striving

scales were approximately normal. The normative measure of value orientation, the Survey of Work Values (SWV), exhibited good psychometric properties. The intrinsic scale (composed of the sum of the subscales representing Activity Preference, Pride in Work, and Job Involvement) correlated .00 with the extrinsic scale (composed of the subscales representing Attitude Toward Earnings and Social Status of Job). The subscales themselves possess high internal consistency with strong subscale-total correlations and relatively weak subscale-subscale correlations.

Since the JAS is an ipsative measure, the two scales (intrinsic and extrinsic) necessarily correlate -1. The JAS correlated .15 with the intrinsic subscale of the SWV, and the extrinsic subscale of the JAS correlated only .09 with the extrinsic subscale of the SWV. Correlations of the JAS with the subscales of the SWV were similarly low. It would appear, therefore, that the intrinsic and extrinsic scales of the JAS are measuring something quite different from that measured by the intrinsic and extrinsic scales of the SWV.

Having examined the interrelationships between the two different measures of intrinsic and extrinsic value orientation, let us now consider their relationship to the respective work itself and work environment criteria. The result of the regression of the ipsative and normative measures of value orientation on the rated importance of work itself is presented in Table 3, and the regression for work environment job elements is presented in Table 4. Examination of Table 3 reveals that the intrinsic scale of the SWV has a multiple R of .31 which accounts for 9.7% of the total variance. The addition

Table 3

Regressions of Importance of Work Itself Job Elements on Ipsative and Normative Orientation Measures†*

Dependent Variable: Importance of Work Itself

Predictor	Multiple R	R^2	Beta	F
SWVI	.31	.10	.29	45.07*
JASI	.34	.11	.12	7.96*

Dependent Variable: Importance of Work Itself

Predictor	Multiple R	R^2	Beta	F
Involve	.27	.07	.16	9.32*
Activity	.31	.09	.12	5.48*
JASI	.33	.11	.12	7.48*
Pride in Work	.34	.11	.09	2.70**
Upstrive	.34	.11	.05	1.28

† F-values refer to the significance of Beta weights.

* Significant at $p < .01$

** Significant at $p < .05$

Table 4

Regressions of Importance of Work Environment Job Elements on Ipsative and Normative Orientation Measures†*

Dependent Variable: Importance of Work Environment

Predictor	Multiple R	R^2	Beta	F
JASE	.10	.01	.09	3.69**
SWVE	.11	.01	.06	1.38

Dependent Variable: Importance of Work Environment

Predictor	Multiple R	R^2	Beta	F
Upstrive	.14	.02	.17	11.67*
JASE	.19	.04	.15	8.98*
Status	.21	.04	.10	4.36*
Earnings	.22	.05	-.08	2.50**

† F-values refer to the significance of Beta weights.

* Significant at $p < .01$

** Significant at $p < .05$

of the JASI as a second predictor in the regression equation yields a multiple R of .11, or an incremental R^2 of only .01. Further, when the SWVI is split into its component subscales and these subscales plus the JASI are regressed against the criterion, the resulting incremental R^2 is .00. Because the Upward Striving subscale correlated significantly positively with both the SWVI and the SWVE, it was included in both regression analyses. In the case of the work itself regression analysis, its addition to the prediction equation resulted in an incremental R^2 of .00.

In sum, the intrinsic subscale of the SWV has a multiple R of .31 which is significant at $p < .01$. The addition of the JASI or the splitting of SWVI into its subscales does not significantly increase the predictability.

Table 4, on the other hand, shows opposite results from those of Table 3. The multiple R for JASE is .10 and accounts for 1% of the variance ($p < .05$) and the addition of the SWVE to the prediction equation yields a non-significant incremental R^2 of .003. In this case, however, splitting the SWVE into its component subscales yields a significant incremental R^2 of .04. One reason for this increase in the amount of explained variance was the emergence of Attitude Toward Earnings as a suppressor variable. Earnings correlated -0.00 with the criterion and appreciably (.29 with Status, .16 with Upstrive, and .14 with JASE) with the other predictors in the equation. The major reason for the increase, however, was the addition of Upward Striving

to the regression equation. Upward Striving turned out to be the best predictor of extrinsic value orientation, in terms of its relation to the criterion as well as to the other predictors.

In sum, the best predictor of work environment is achieved by regressing the subscales of the SWVE plus the JASE, though even this accounts for only 4.8% of the total variance. Based on these results, a best linear combination of predictors of intrinsic value orientation and a best linear combination of predictors of extrinsic value orientation were synthesized. These respective combinations are "best" in terms of explained criterion variance. The beta weights utilized for each of the subscales are presented in Tables 3 and 4. The composite predictor of intrinsic orientation was termed Intro, and the composite predictor of extrinsic orientation was termed Extro. Intro and Extro were then put into standard score form and served as predictors of value orientation in the models to be reported later.

The Prediction of Job Satisfaction

The job satisfaction criterion used in the present study was the total score on the Job Descriptive Index (JDI), an unweighted sum of its five subscale scores. If we are to assess the predictive value of a particular model of job satisfaction, however, it is essential that our criterion for job satisfaction demonstrate satisfactory psychometric properties. The reliability and validity of the JDI were reported earlier, and are acceptable. Let us now consider its internal consistency, based on the present results.

The subscale-total correlations, as well as the subscale-subscale correlations, are presented in Table 5. Subscale-subscale intercorrelations

Table 5

Subscale-Total and Subscale-Subscale Correlations

Among JDI Subscales

	Total	Pay	Promotions	Supervision	Co-Workers	Work Itself
Total						
Pay	.51	1.00				
Promotions	.64	.28	1.00			
Supervision	.74	.22	.30	1.00		
Co-Workers	.72	.19	.27	.36	1.00	
Work Itself	.60	.21	.21	.30	.34	1.00

are low, with a mean intercorrelation of .26, while subscale-total intercorrelations are very high, with a mean intercorrelation of .64. All subscales as well as total scores were normally distributed. In sum, the reliability and validity of the JDI are acceptable and its internal consistency is sound. In terms of an appropriate criterion for job satisfaction, it is a worthy candidate.

The next issue to be considered concerns the measures of intrinsic and extrinsic organizational rewards to be used in testing the present model of job satisfaction. Intrinsic and extrinsic organizational rewards were measured by summing responses to the WI-WE Questionnaire. As with the criteria for intrinsic-extrinsic value orientation, these conceptually independent scales appeared to be empirically non-independent. The scale representing organizational rewards from the work itself (that is, intrinsic rewards) correlated .65 with the scale representing organizational rewards from the work environment (extrinsic rewards). The scores for these scales were computed as follows. Individual scores from each of nine elements related to the work itself, and ten elements related to the work environment, were summed to yield total scores, which were then put into standard score form. In this section of the booklet each element was followed by five alternatives numbered 1 through 5; the respondent was instructed to check as many as described that aspect of his job (up to a maximum of three). Each alternative had a specific scale value associated with it. No assumption was made concerning equal interval scales. Computerized scoring made it

possible to first "look-up" the appropriate scale values corresponding to as many alternatives as were checked for a given element, sum these values, and then take their mean as the best estimate of the level of organizational rewards corresponding to that particular aspect of the individual's job.

Because the scores on many of the variables were badly skewed left, another exponential transformation of the form e^a was applied. The skewness was eliminated, the scores were put into standard score form, and then the total pool of variables was factor analyzed using principal components with oblique as well as varimax rotations. Factor analysis was employed in an attempt to arrive at two empirically independent scales representing the amount of organizational rewards acquired from the work itself and from the work environment respectively.

Examination of the principal components results indicated that again a single general factor was accounting for 61.1% of the variance, with a second factor accounting for 15.2% of the variance. It was decided that to achieve some measure of empirical independence a differential weighting scheme should be employed. Accordingly a factor score coefficient matrix was derived for this purpose. The variables used in the final scales, as well as their factor score coefficients, are presented in Table 6. The correlation between the two differentially weighted scales was still a significant .41.

Although in their final forms these two scales were still not empirically independent, there was a decided drop in the shared variance from the initial form (.65) to the final form (.41). It was felt that

Table 6

Job Elements and Factor Score Coefficients for Work Itself and Work Environment Measures of Organizational Rewards

Work Itself	Work Environment
.16 Variety	.20 Interpersonal Relations: Supervisor
.47 Learning New Skills: Necessity	.17 Interpersonal Relations: Subordinates
.39 Learning New Skills: Opportunity	.27 External Feedback
.31 Follow-Through	.13 Job/Person Fit
.33 Independence: Methods	.21 Job Security
.18 Independence: Pace	.13 Salary
.45 Goal Clarity	.25 Status Outside Company
-.13 Company Policy and Administration	.34 Status Inside Company
	.25 Service to Others
	.40 Company Policy and Administration

the latter relationship was a valid approximation of the true relationship between these measures and therefore no further analyses were undertaken. The scores on each of these two predictors were used as the measures of intrinsic and extrinsic organizational rewards in the analyses to be reported next.

The discrepancy model of job satisfaction proposed earlier was then tested. The conceptual format of this model is

$$J.S. = n - \sum_{1}^{n\ \text{FACETS}} |O-R|$$

where satisfaction is equal to the sum of the absolute value of the differences between value orientation and organizational rewards subtracted from the number of facets. In order to achieve a common unit of measurement in predictor and criterion, however, all scores were put into standard score form. A logical condition was set up such that if the value of the discrepancy (O-R) was less than zero, this value was multiplied by -1 in order to arrive at an absolute value. The main difficulty with this approach, however, is that in forcing a distribution of standard scores to take on absolute values, the end result is no longer a normal distribution, but rather a chi square distribution. Since predictor and criterion have very differently shaped distributions, a degree of nonlinearity and a degree of heteroscedasticity are artificially forced in the relationship, thus precluding meaningful comparisons (Nunnally, 1967). It should be pointed out, however, that the linear regression model makes -tion about the distribution characteristics of predictors, but

only that errors are normally distributed. This model yielded a double cross-validated multiple R of .10. Consequently the model was altered to the conceptual form

$$J.S. = n - \sum_{1}^{\text{FACETS}} (O\text{-}R)$$

where the algebraic value of the differences were considered. More precisely, the model was $J.S. = n - \sum_{1}^{\text{FACETS}} ((O_I\text{-}R_I) + (O_E\text{-}R_E))$ where $(O_I\text{-}R_I)$ and $(O_E\text{-}R_E)$ refer to the discrepancies between intrinsic and extrinsic value orientation and rewards respectively. This model yielded a double cross-validated multiple R of .40.

Somewhat surprising was the finding that the discrepancy between intrinsic value orientation and rewards from the work itself provided a non-significant contribution to the multiple R (beta weight = 0.01). The discrepancy between extrinsic value orientation and rewards from the work environment, however, yielded a significant beta weight of -.41. This suggested that organizational rewards were more significant determinants of overall satisfaction than value orientation in the relationship (O-R). The final form of the model was thus:

$$J.S. = 1 - \sum (O_E\text{-}R_E)$$

It should be indicated, however, that because the correlation between $(O_I\text{-}R_I)$ and $(O_E\text{-}R_E)$ was .30, and the partial correlation of $(O_I\text{-}R_I)$ with the criterion was a meager .02, this term was adding little unique

variance to the prediction equation. It could easily be deleted without incurring a significant drop in the size of the multiple R.

In order to put the predictive ability of this model into empirical perspective, several alternative models of job satisfaction were applied to the same data pool.

Let us first consider a "direct" model of job satisfaction. Job satisfaction has been operationalized as the sum of goal attainment or need fulfillment when summed across job facets. The model is straightforward and simple

$$J.S. = \sum^{FACETS} (\text{Organizational Rewards})$$

JDI total scores were regressed on two predictors: "How much is there now?" (the measure of organizational rewards from each job facet) responses to the work itself as well as work environment elements of the job. This model yielded a double cross-validated multiple R of .55. Once again, the responses to the work itself elements did not add significantly to the prediction equation (beta weight = 0.08).

In using rated importance as a criterion for value orientation, the assumption is being made that this criterion is a good measure of value orientation. If this is the case, then it would seem appropriate to use this criterion itself as a measure of value orientation. The conceptual form of this second alternative model is

$$J.S. = n - \sum_{1}^{n^{FACETS}} ((\text{Importance}_I - \text{Rewards}_I) + (\text{Importance}_E - \text{Rewards}_E))$$

where satisfaction is conceptualized as being equal to the sum of the discrepancies between importance and organizational rewards (for both

intrinsic and extrinsic job elements) subtracted from the number of job facets. This model yielded a double cross-validated multiple R of .46. As predicted, the beta weights representing both the intrinsic (-.20) and the extrinsic (-.33) discrepancies were negative and significant at $p < .01$.

The third alternative model of job satisfaction to be considered may be termed a multiplicative model. According to a multiplicative model of job satisfaction (Vroom, 1964), individual needs are multiplied by the degree to which the job fulfills that need, and these products are then summed over all needs. Conceptually,

$$\text{J.S.} = \sum^{\text{FACETS}} ((\text{Importance}_I \times \text{Rewards}_I) + (\text{Importance}_E \times \text{Rewards}_E))$$

where I and E subscripts refer to work itself and work environment elements, respectively. This model produced a double cross-validated multiple R of .32. Again the predictor representing the work itself elements did not make a significant contribution to the multiple R.

Residuals from each of these models were plotted and tested for normality of distribution. With an average N size of 475, none of the distributions showed any marked departure from normality. The results from each of these models are presented in Table 7.

In summary, the model of job satisfaction proposed in the present paper was not as predictive of overall job satisfaction as either the direct ("Is Now") model or the (Importance - Rewards) model. It was, however, more predictive than the multiplicative model.

Table 7

Regressions of JDI Total Scores on Four Different Models of Job Satisfaction†* **

Model	Double Cross-Validated Multiple R	R^2	Beta	F
$J.S. = n - \sum_{1}^{FACETS} (O - R)$	.40	.16	(E)-0.4112 (I) 0.0184	73.33* 0.15
$J.S. = n - \sum^{FACETS} (Importance-Rewards)$	.46	.21	(E)-0.3329 (I)-0.2031	45.43* 16.91*
$J.S. = \sum^{FACETS} (Rewards)$	.55	.30	(E) 0.4884 (I) 0.0848	79.48* 2.39
$J.S. = \sum^{FACETS} (Importance \times Rewards)$	.32	.10	(E) 0.2992 (I) 0.0345	24.70* 0.33

† F-values refer to significance of Beta weights

* Significant at p .01

** (E) = Work environment
(I) = Work itself

The second and third hypotheses of the study were only partially supported. According to these hypotheses, for those Ss scoring high on intrinsic orientation and low on extrinsic orientation, the predictor which accounts for the largest portion of the variance in overall job satisfaction should be the measure of satisfaction with the work itself. Conversely, for those Ss scoring high on extrinsic orientation and low on intrinsic orientation, the predictors accounting for the most variance in overall job satisfaction should be those which measure satisfaction with the work environment.

Originally it was intended to use only those Ss scoring in the upper and lower thirds of the distributions of intrinsic and extrinsic orientation scores respectively, in order to test these hypotheses; but such stringent criteria decreased N to 43 Ss in the upper third on intrinsic orientation and the lower third on extrinsic orientation, and 47 Ss in the upper third on extrinsic orientation and the lower third on intrinsic orientation. Relaxing the criteria to permit Ss scoring in the upper and lower halves of the intrinsic and extrinsic orientation dimensions to be selected increased the sample sizes in the two samples to 88 and 102 Ss respectively. The results of this analysis are presented in Table 8.

In the high intrinsic/low extrinsic orientation group, satisfaction with the work itself, although a significant predictor ($F = 178.12$) ranked fourth of the five predictors used. The other four predictors were satisfaction with pay, promotions, supervision, and co-workers. In the high extrinsic/low intrinsic orientation group, however, satisfaction with the work itself again ranked fourth, while satisfactions with supervision,

Table 8

Regressions of JDI Total Scores on Facet Satisfaction Scores for High Extrinsic/Low Intrinsic and High Intrinsic/Low Extrinsic Ss*

High Extrinsic/Low Intrinsic Ss N=88

Facet	Multiple R	R^2	Beta
Supervision	.72	.52	.42
Promotions	.85	.72	.31
Co-Workers	.94	.89	.39
Work Itself	.98	.96	.28
Pay	1.00	1.00	.2[illegible]

High Intrinsic/Low Extrinsic Ss N=102

Facet	Multiple R	R^2	Beta
Supervision	.76	.58	.31
Co-Workers	.86	.74	.39
Promotions	.94	.88	.31
Work	.98	.96	.28
Pay	1.00	1.00	.22

* All Beta weights are significant at $p < .01$.

co-workers, and promotions account for 88.7% of the variance in the total score. Satisfaction with pay, although correlated .42 with the total score in this analysis, accounts for a change in R^2 of only .04 and ranks fifth of the five predictors.

Examination of the means and standard deviations of the job facet satisfaction scores as well as the overall satisfaction scores of these two groups using Hotelling's T^2 test, indicated that the multivariate $F(3.74, p < .01)$ as well as every one of the univariate Fs was significant. The high intrinsic/low extrinsic orientation group is significantly more satisfied than the high extrinsic/low intrinsic orientation group. These results are presented in Table 9.

DISCUSSION

Value Orientation and Organizational Rewards -- Intrinsic and Extrinsic

One of the relevant questions in this study concerned the nature of the relationship between intrinsic and extrinsic value orientation and between intrinsic and extrinsic organizational rewards. The intrinsic scale of the normative measure of value orientation, the Survey of Work Values (SWV) correlated 0.0 with the extrinsic scale, while the measure of intrinsic organizational rewards correlated .41 with the measure of extrinsic organizational rewards. These results indicate that analysis of the relationship between intrinsic and extrinsic value orientation deserves separate consideration from analysis of the relationship between intrinsic and extrinsic organizational rewards. First let us consider value orientation.

Table 9

Means and Standard Deviations of Job Facet Satisfaction Scores for High Extrinsic/Low Intrinsic and High Intrinsic/Low Extrinsic Sst*

Hi INTR/Lo EXTR		Hi EXTR/Lo INTR		Scale	F
$\bar{x}$	SD	$\bar{x}$	SD		
				Overall	3.74*
27.39	11.53	23.87	12.14	Pay	2.33**
34.63	16.74	27.99	16.71	Promotions	3.12*
45.93	9.74	42.71	12.29	Supervision	2.28***
45.89	10.45	42.63	12.47	Co-Workers	2.22***
42.21	7.06	39.79	8.32	Work Itself	2.46**

† All scales except Pay and Promotions have 18 items. The latter have nine items; therefore their scores were multiplied by two in order to facilitate comparisons.

* Significant at $p < .01$

** Significant at $p < .02$

*** Significant at $p < .05$

In their attempts to measure intrinsic and extrinsic value orientation, some writers (e.g. Saleh, 1971; Bass, 1967) assume that intrinsic orientation and extrinsic orientation are opposite ends of the same continuum, while others (e.g. Wollack, Goodale, Wijting, and Smith, 1971) assume that they represent separate continua.

The complete lack of relationship ($r = 0.00$) between the intrinsic and extrinsic scale of the normative measure of value orientation, the Survey of Work Values (SWV), indicates that whatever the intrinsic subscale is measuring is something separate and independent from whatever the extrinsic subscale is measuring. On the other hand, the ipsative measure of value orientation, the Job Attitude Scale (JAS), appears to be somewhat of an enigma. Because of the nature of the instrument, the correlation between the intrinsic subscale and the extrinsic subscale is perfectly negative. Attempts at construct validation, however, proved futile. The intrinsic subscale of the JAS correlated .15 with the intrinsic subscale of the SWV. One would expect a higher correlation between different measures of the same trait. In addition, the intrinsic scale of the JAS correlated .16 with the rated importance of the work itself (versus .31 for the intrinsic subscale of the SWV), and .14 with the total score of the JDI (versus .25 for the SWV).

It is possible, however, that a summary measure such as the total score of the JDI, because of its complexity, may be masking a relationship

which involves only one aspect of the employee's feelings. The intrinsic score on the JAS should theoretically correlate highest with the Work scale of the JDI, yet the relationship is only .06 (versus .22 for the correlation of the intrinsic subscale of the SWV with the Work scale of the JDI).

In summary, therefore, it is not clear exactly what the JAS is measuring. Based on the results of the SWV, however, it appears that the relationship between intrinsic and extrinsic value orientation is independent.

The opposite conclusion appears plausible in the case of intrinsic and extrinsic organizational rewards. According to the Lawler-Porter model (1967), the effects of intrinsic and extrinsic rewards are independent. That is, the effects of a person's intrinsic and extrinsic rewards are additive to determine his overall job satisfaction. If this is the case then an increase (or decrease) of X units of extrinsic reward should in no way affect the amount of intrinsic rewards a person feels he is receiving on his job, so the increase in satisfaction would be a simple function of X.

According to the results of studies by Deci (1971, 1972) and Cascio and Deci (1972), however, intrinsic and extrinsic rewards are interactive. If an individual engages in an activity that is intrinsically rewarding to him, and subsequently begins to receive extrinsic rewards (or punishments) for engaging in that activity he will be less intrinsically motivated to do the activity. Therefore, the amount of intrinsic rewards he feels he is receiving from the activity would decrease.

The measure of organizational rewards was the "How much is there now?" responses to each of the work itself and work environment elements. The final form of these two differentially weighted scales still correlated .41. Employees who feel they receive substantial rewards from performance of the work itself also tend to feel they receive substantial rewards from the work environment.

Perhaps this sizeable relationship betwenn intrinsic and extrinsic rewards has come about because of the uncontrolled influence of some third variable. People who feel good (bad) about one area of their jobs which is important to them may tend to generalize and feel good (bad) about all the other areas of their jobs. In the present investigation this uncontrolled third variable would appear to be overall job satisfaction. In order to test this hypothesis a partial correlation was computed between the "Is Now" responses to work itself and work environment items, controlling for the effect of overall job satisfaction. The correlation still remained a significant .35.

It appears, therefore, that when an individual must express an absolute, context-independent, internal standard (value orientation) he can clearly distinguish two separate domains related to his job. One domain relates to the performance of the work itself (intrinsic), the other to the conditions which surround the performance of the work (extrinsic). When that same individual is forced to make judgments with respect to the amount of these elements present on his job at a certain point in time, that is, relative to external standards which

are specific to a given context, these two conceptually distinct areas of value orientation tend to fuse together, at least for the salesmen considered in the present analysis. In sum, there is a positive correlation between the intrinsic rewards and extrinsic rewards on the job for the sample of salesmen considered. This may be an accurate description of the state of their world, or it may be a result of psychological processes that affect their perceptions of their world.

For the salesman working on a commission (piece rate) basis, pay is an integral part of his work. Pay is tied so directly to performance, in this case, that content and context tend to become a single entity. Achievement, recognition, advancement, challenge, supervision, interpersonal relationships, status, and so on are interrelated in an interactive fasion. It is possible that pay has more symbolic secondary reinforcing properties for the salesman than for the salaried worker. For the salesman pay equals achievement. In sum the amount of rewards a person feels he is receiving in relation to the performance of the work itself is not independent of the amount he feels he is receiving in relation to the work environment. They tend to covary.

Insofar as the Lawler-Porter model expresses job satisfaction as a function of the simple sum of intrinsic and extrinsic rewards it appears to be incorrect, at least with regard to the sample of salesmen and managers used in the present study. A rigorous test of the Lawler-Porter model, however, would require a longitudinal investigation. According to the Lawler-Porter model if an individual is receiving 10 units of intrinsic rewards and 10 units of extrinsic rewards, his

total satisfaction is a direct function of 20 units. If that same individual receives 10 additional units of extrinsic rewards, his total satisfaction would, according to this model, be a function of 30 units. The interaction between intrinsic and extrinsic rewards is assumed to be zero. It is possible to have an interaction of zero and still have a non-zero correlation at any point in time as was the case in this study. This would imply only that the correlation is an accurate reflection of the amount of intrinsic and extrinsic rewards that are present at that time and not that one affects the other. If extrinsic rewards were increased and intrinsic rewards remained constant, the Lawler-Porter model would be correct and the correlation between the two kinds of rewards would change. This means the correlation would be changing continually as the mix of intrinsic and extrinsic rewards change. It is more likely, however, that the correlation between intrinsic and extrinsic rewards means that the two are not independent and that the Lawler-Porter model is not accurate, though the static nature of the present investigation is merely suggestive of this and does not test the model adequately.

According to Deci and Cascio when that individual receives the additional ten units of extrinsic reward, his total satisfaction would not be a function of 30 units, but rather some lesser amount, for an increase in extrinsic rewards tends to decrease the amount of intrinsic rewards a person feels he is receiving. One would expect from these findings that the amount of intrinsic and extrinsic rewards would be negatively related, which was not the case in the present study. Again,

however, this does not represent an adequate test of the Deci and Cascio results because they assert a dynamic interplay between extrinsic rewards and intrinsic motivation. A longitudinal study is also required to test their assertion adequately. It could be, for example, that the salesmen in this study who began with very high intrinsic motivation may have lost a substantial amount of intrinsic motivation as a result of their extrinsic rewards. Still, there could be a modest correlation such as the .41 obtained in the present study. The Deci and Cascio results would imply that this correlation would, over time, be decreasing. Still, the current data are counter to what one might have expected from their hypotheses, though it does not disconfirm them.

With regard to the hypothetical situation described above, the present results indicate that when 10 additional units of extrinsic reward are received, overall satisfaction will be equal to some amount greater than 30 units, due to the spillover effect caused by the positive interrelationship between intrinsic and extrinsic rewards. In summary, the three models imply the following relationships:

Lawler-Porter (1967) $= \sum^{\text{FACETS}} (I + E)$

Deci (1971, 1972) and Cascio and Deci (1972) $J.S. = \sum^{\text{FACETS}} ((I + E - (I \times E))$

Cascio (1973) $J.S. = \sum^{\text{FACETS}} ((I + E + (I \times E))$

Intrinsic and extrinsic value orientation appear to be independent constructs; intrinsic and extrinsic organizational rewards appear to be interactive.

A simple modification of the second half of the Lawler-Porter model is presented in Figure 5.

High Intrinsic Versus High Extrinsic Value Orientation

The results of the extreme groups analyses (high intrinsic/low extrinsic versus high extrinsic/low intrinsic) were somewhat perplexing. According to the hypotheses, for those Ss scoring high on intrinsic orientation and low on extrinsic orientation, the predictor which accounts for the largest portion of the variance in overall job satisfaction should be the measure of satisfaction with the work itself. Conversely for those Ss scoring high on extrinsic orientation and low on intrinsic orientation, the predictors accounting for the most variance in overall job satisfaction should be those which measure satisfaction with the work environment. In both groups, however, the Work and Pay scales of the JDI ranked fourth and fifth, respectively, of the five predictors of overall job satisfaction. In addition the high intrinsic/low extrinsic group was significantly more satisfied across all fives scales as well as total job satisfaction.

Interviews with several respondents subsequent to the administration of the booklets corroborated certain working hypotheses regarding the present results. Anecdotal evidence suggests that in general the members of this sales force enjoy their work. They relish the challenge of sales, and are optimistic about opportunities for advancement. Their attitudes toward the amount of their pay are generally negative. The interviewees seemed to feel that this was characteristic of many salesmen. "They all feel they're not being paid what they're worth" was a common response to queries on attitudes toward pay.

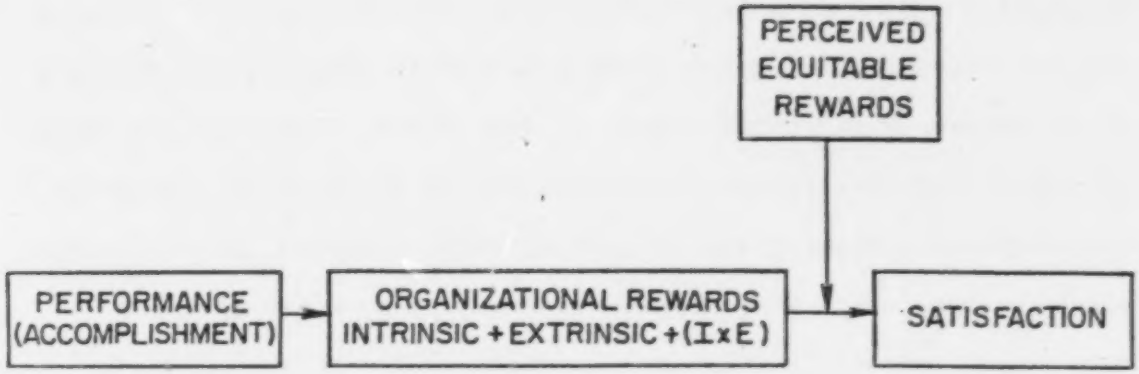


Figure 5. Proposed modification of the second half of the Lawler-Porter (1967) model.

The validity of these responses to questions on characteristics of the overall sales force was buttressed when JDI scores for this sales force were compared to JDI norms for the overall population (N = 1950) reported by Smith, Kendall, and Hulin (1969). Scores on the Work scale for the present sample were in the 64th percentile for the overall population, while scores on the Pay scale ranked in the 39th percentile for the overall population.

Both the high intrinsic/low extrinsic group and the high extrinsic/low intrinsic group were relatively homogeneous in their attitudes toward the Work and Pay (positive and negative, respectively). The possibility thus exists that because of this homogeneity the Work scale did not make a more significant contribution to the prediction of overall job satisfaction for the high intrinsic/low extrinsic group and the Pay scale did not make a more significant contribution to the prediction of overall job satisfaction for the high extrinsic/low intrinsic group.

One possible interpretation of the greater satisfaction expressed by the high intrinsic/low extrinsic group is that of stimulus generalization. These people get their primary rewards from the performance of the work itself. They prefer working to being idle, they prefer to get involved with their work, and they take pride in doing it well. Their satisfaction with the work itself may very well generalize to satisfaction with conditions surrounding the performance of the work. In systems terminology, their positive feelings about one subsystem which is very important to them have positive ramifications on all other subsystems related to their job. Conversely the high extrinsic/low intrinsic worker finds dissatisfaction

with one very important aspect of his work environment (pay) and these negative feelings also generalize to all other aspects of his job. Although no importance ratings of job facets were taken in the present study, post hoc interviews with a subsample of the respondents indicated that pay was the most important element of the salesman's work environment.

Certain qualifying remarks are in order, however. It is entirely possible that these results are due to the Zeitgeist or organizational climate peculiar to this particular organization. The environment of this organization is dynamic and high-powered; growth and change are everyday occurrences. If this study had taken place in a settled or even a declining organization, one might quite plausibly expect exactly the opposite results. The high intrinsic/low extrinsic group would likely be very dissatisfied with the performance of the work itself and this negative affect might easily generalize to all other aspects of the job. Conversely the high extrinsic/low intrinsic group might find conditions surrounding the performance of the work quite comfortable and this positive affect might also generalize to all other aspects of the job. A future research effort is now being planned to test this intriguing possibility.

The Present Model of Job Satisfaction

As was reported earlier, the present model of job satisfaction bears an ostensible resemblance to Locke's (1969) model of job satisfaction. Closer examination, however, reveals both theoretical and procedural differences which clearly distinguish the two.

Both models hypothesize that job satisfaction and job dissatisfaction are functions of the perceived relationship between what one values (desires from his job) and what one perceives on his job. Both models operationally measure goal attainment or need fulfillment by asking for a "How much is there now?" response to various job facets. The differences between the two models lie in the frames of reference within which the construct "values" is considered. The present model considers values from the standpoint of long-term, context-independent, evaluative standards. The measurement of values via the SWV (which assesses the meaning an individual attaches to his role at work) and the JAS (which seeks to establish a context-independent preference hierarchy within the individual for intrinsic versus extrinsic rewards) is consistent with the theoretical underpinnings of the model.

Locke (1969) is inconsistent in his approach to the measurement of values. The studies he reports (1969) sometimes use a "How Much Should There Be?" item similar to Porter's (1961) model (J.S. = $\sum^{FACETS}$ (Should Be - Is Now)) and at other times ask Ss to think in terms of ideal standards or what they "Would Like" (J.S. = $\sum^{FACETS}$ (Would Like - Is Now)). Wanous and Lawler (1972) have emphasized that it is important to distinguish between these two approaches. The former represents an equity comparison (Homans, 1961; Patchen, 1961; Adams, 1963) in which one asks himself if his job provides equitable outcomes. The latter requires one to ask if his present job comes close to his ideal job. One can easily imagine an individual who

believes his job is not right for him because it doesn't match his ideal job, yet it provides an equitable amount of outcomes for the inputs it requires. In the studies reported by Locke, both types of judgments are made within the context of a specific external referent.

These theoretical and procedural differences may explain the differences in predictive abilities of the two models. Locke (1969) reports average correlations of .61 to .81 (absolute value) between his context-dependent discrepancy model and job facet satisfaction ratings. Wanous and Lawler report an average correlation of .44 between Locke's model and facet satisfaction ratings. The present results yielded a multiple R of .10 using the context-independent absolute value of the discrepancy between value orientation and organizational rewards. This model was simply not supported by the data. Multiple correlations of .40 resulted, however, using context-independent measures of values (Orientation - Rewards) and .46 using context-dependent measures of values (Importance - Rewards). To the extent that similar elements are present in predictor (context-dependent) and criterion (context-dependent) observed relationships will tend to be higher because the covariance of the two distributions increases.

In the present investigation when Ss were asked to rate the importance of work itself and work environment elements in the context of their present jobs they did so within that particular framework; their ratings were therefore context-dependent. The relatively low multiple correlations (.33 and .21 respectively) between the measures of inrinsic value orientation (context-independent) and the rated importance

of work itself elements (context-dependent) and between extrinsic value orientation (context-independent) and the rated importance of work environment elements (context-dependent) are probable reflections of the differing frames of reference within which the judgments were made.

The Present Model Versus Alternative Models

In general the rank order of the predictive abilities of the various models of job satisfaction employed in the present study is somewhat different from that reported earlier by Wanous and Lawler (1972). The direct "How Much Is There Now?" model ($J.S. = \sum^{FACETS}$ (Organizational Rewards)) is most predictive (.55), while the multiplicative model ($J.S. = \sum^{FACETS}$ (Importance x Rewards)) is least predictive (.32). The latter result is somewhat surprising in view of the fact that Wanous and Lawler (1972) found it second most predictive (.55) of the nine models they studied. Why do the four models yield substantial differences in the size of the multiple R?

Perhaps the present results are due to differences in the reliabilities of the scales. Unreliable measures will be less predictive. As a check on this the average interitem correlations were computed for each measure and the reliability coefficient for the entire measure determined from this average interitem correlation (Nunnally, 1967, p. 193). The reliabilities for the different models are as follows: "Is Now" (.75), "Importance-Rewards" (.57), "Orientation-Rewards" (.62), "Importance x

Rewards" (.77). The reliabilities of the two discrepancy models are lower than either the direct or multiplicative model because they are computed from difference scores (according to the method provided by Magnusson, 1967, pp. 90-97). The reliability of a difference score will always be lower than either of its component measures (Brown, 1970). Differences in reliability do not completely explain the findings, however, since the most reliable scale (multiplicative) is least predictive. If the differences in predictive ability were due to differences in reliability one would expect the most reliable measure to be most predictive.

One possible explanation for the difference in predictability of the multiplicative model in the Wanous and Lawler (1972) study (.55) and in the present study (.32) may lie in procedural differences. Wanous and Lawler did not employ a multiple regression approach to test the model, but merely report the average correlation between the predictions of the model and job facet satisfaction ratings. One problem with the multiplicative model is that it implies a second degree equation of the form: $Z = ax^2 + by^2 + cxy + dx + ey$ where $a = b = 0$. One characteristic of polynomial regression is its inability to hold up upon cross-validation (Ward, 1954). This is accounted for by the inherent instability of sampling and may account for the relatively low multiple R which resulted from the double cross-validation procedure.

Differences in predictive ability might be due to similar response styles with regard to ratings of importance. Ross and Zander (1957)

reported a tendency for every respondent to judge every goal or facet of the job as equally important to him with a consequent restriction in the variation of range in the measure. Such a finding in the present investigation may explain the relatively modest multiple R(.32) of the multiplicative model. Measures of skewness and kurtosis together with plots of the ratings of the importance of the work itself and the work environment, however, indicated roughly normal distributions, slightly negatively skewed and somewhat leptokurtic. Restriction of range, therefore, does not appear to be a causal factor.

Perhaps the high predictability of the "Is Now" model is due to a tendency on the part of people always to use the extremes of the scales coupled with a tendence to "yea" saying on the JDI. Such response set variance common to measures of different variables may artifically inflate the correlation between them (Husek, 1961). Measures of skewness and kurtosis together with plots of the "Is Now" responses to work itself and work environment elements demonstrated that this was not the case. Kurtosis was normal although skewness was slightly negative. In addition, Smith, Kendall, and Hulin (1969) reported two studies which investigated the effect of acquiescence and response set on the JDI. Partialling out response set measures had very little effect on the convergent validity coefficients of the JDI scales.

In summary, it appears that asking a person simply to rate his organizational rewards ("Is Now") produces different results than asking him to rate the different facets of his job and then taking their difference or product as a measure of satisfaction. As was already pointed out, this

is most probably due to the similarity of elements in predictor and criterion. The context within which evaluations are to be made is specified (present job), and thus evaluations are relative rather than absolute, the measure is descriptive rather than evaluative, and the time frame is relatively short-term. Judgments are not being made with reference to the totality of jobs of which the worker is aware, but rather with reference to the day-to-day or week-to-week activities of his job. This is not to imply that the other models are without merit, however. Given a specific purpose, and relative to the particular kinds of behavior to be predicted, any one of the other models may very well be more useful. What is required is a precise specification of the purposes and conditions under which each model is most appropriate. It has been demonstrated that each of the four alternative models of job satisfaction shows significant correlations with overall job satisfaction. Since this is the case the investigator would do well to choose that model which is most congruent with his conceptual framework.

Job Satisfaction -- A Conceptual Framework

The focus of the present study was on the predictive ability and potential practical utility of one particular model of job satisfaction, namely:

$$J.S._n = \sum_{1}^{FACETS} ((O_I - R_I) + (O_E - R_E))$$

Although the model demonstrated significant predictive ability, it was not as effective as the alternative models:

$$J.S. = \sum^{FACETS} (\text{Organizational Rewards})$$

or

$$J.S. = n - \sum_{1}^{FACETS} ((\text{Importance}_I - R_I) + (\text{Importance}_E - R_E))$$

The latter model has previously been labeled "theoretically meaningless" (Evans, 1969; Wanous and Lawler, 1972), and its use not recommended in situations where overall satisfaction scores are being computed, or where individuals are being compared. The major criticism of this approach is that a 9 - 9 = 0 discrepancy (high importance coupled with high fulfillment) is treated as equal to a 2 - 2 = 0 discrepancy (low importance coupled with low fulfillment). The model fails to take into account differences in levels of satisfaction. Although this model has been used by a number of investigators as an index of overall job satisfaction (Kuhlen, 1963; Pelz and Andrews, 1966; Beer, 1966), its use for that purpose seems inappropriate.

Ross and Zander (1957) used this model as an index of <u>dissatisfaction</u>. In an attempt to predict turnover, significant differences were found between leavers and those who remained on the job in terms of discrepancies between desires and fulfillment in needs for recognition (.64) and autonomy (.53). Glennon, Owens, Smith, and Albright (1960) recommended this model as an aid to management in identifying "sore spots" or low satisfaction issues.

The model appears most appropriate in that particular context. It is a valuable tool which will enable management, and especially the job designer, to identify situations in which low satisfaction is coupled

with high importance, as well as the opposite situation in which high satisfaction is coupled with low importance. As such it would function as an "organizational barometer". Results from such a model could be used as signposts (Goodenough, 1949) pointing toward those areas where management as well as the job designer might most fruitfully concentrate their resources and efforts.

To the extent that the straightforward J.S. = $\sum^{\text{FACETS}}$ (Organizational Rewards) model controls for time perspective, asks for descriptive rather than evaluative information, and forces the respondent to collapse all the cues from his past experiences, expectations, and social reference group into a simple "Is Now" response, its demonstrated predictive superiority over other conceptually more elegant models is not surprising. As an index of overall satisfaction as well as of job facet satisfaction, this model was the best of those tested. It should be reemphasized, however, that a model is "best" relative to a specific purpose and under specified conditions. It is the task of future research to point these out.

REFERENCES

Adams, J.S. Toward an understanding of inequity. Journal of Abnormal and Social Psychology, 1963, 68, 422-436.

Bass, B.M. Social behavior and the orientation inventory: A review. Psychological Bulletin, 1967, 68, 260-292.

Beer, M. Leadership, employee needs, and motivation. Columbus: Bureau of Business Research, Ohio State University, 1966.

Branden, N. Emotions and values. The Objectivist, 1966, 5(5), 1-9.

Brayfield, A.H., & Crockett, W.H. Employee attitudes and employee performance. Psychological Bulletin, 1955, 52, 396-424.

Brayfield, A.H., & Marsh, D.H. (Summarized in Brayfield, A.H., & Crockett, W.H.) Employee attitudes and employee performance. Psychological Bulletin, 1955, 52, 396-424.

Brown, F.G. Principles of educational and psychological testing. Hinsdale, Illinois: The Dryden Press, 1970.

Campbell, D.T., & Fiske, D.W. Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 1959, 56, 81-105.

Cascio, W.F. Intrinsic-extrinsic motivation. . . Some parameters for job design. Unpublished manuscript, Management Research Center, 1972.

Cascio, W.F., & Deci, E.L. The cognitive evaluation of negative feedback. Unpublished manuscript, Management Research Center, 1972.

Cascio, W.F., Deci, E.L., & Krusell, J. The cognitive evaluation of feedback. Under editorial review.

Deci, E.L. Effects of externally mediated rewards on intrinsic motivation. Journal of Personality and Social Psychology, 1971, 18, 105-115.

Deci, E.L. The effects of contingent and noncontingent rewards and controls on intrinsic motivation. Organizational Behavior and Human Performance, 1972, 8, 217-229.

Deci, E.L., & Cascio, W.F. Changes in intrinsic motivation as a function of negative feedback and threats. Paper presented at Eastern Psychological Association Convention, April, 1972.

Evans, M.G. Conceptual and operational problems in the measurement of various aspects of job satisfaction. Journal of Applied Psychology, 1969, 53, 93-101.

Gadel, M.S., & Kriedt, P.H. Relationships of aptitude, interest, performance, and job satisfaction of IBM operators. Personnel Psychology, 1952, 5, 207-212.

Glennon, J.R., Owens, W.A., Smith, W.J., & Albright, L.E. A new dimension in measuring morale. Harvard Business Review, 1960, 38, 106-107.

Goodenough, F.L. Mental testing: its history, principles, and applications. New York: Holt, Rhinehart, and Winston, 1949.

Herzberg, F. Work and the nature of man. Cleveland: Work Publishing Company, 1966.

Herzberg, F., Mausner, B., Peterson, R., Capwell, D.F. Job attitudes: Review of research and opinion. Pittsburgh: Psychological Services of Pittsburgh, 1957.

Homans, G.C. Social behavior: Its elementary forms. New York: Harcourt, Brace, and World, 1961.

Husek, T.R. Acquiescence as a response set and as a personality characteristic. Educational and Psychological Measurement, 1961, 21, 295-307.

Iris, B., & Barrett, G.V. Some relations between job and life satisfaction and job importance. Journal of Applied Psychology, 1972, 56, 301-304.

Kornhauser, A., & Sharp, A. Employee attitudes: suggestions for a study in a factory. Personnel Journal, 1932, 10, 393-401.

Kuhlen, R.G. Needs, perceived need satisfaction opportunities, and satisfaction with occupation. Journal of Applied Psychology, 1963, 47, 56-64.

Kunin, T. The construction of a new type of attitude measure. Personnel Psychology, 1955, 8, 65-77.

Lawler, E.E. III, & Porter, L.W. The effect of performance on job satisfaction. Industrial Relations, a Journal of Economy and Society, 1967, 7, 20-28.

Locke, E.A. What is job satisfaction? Organizational Behavior and Human Performance, 1969, 4, 309-336.

Magnusson, D. Test theory. Reading, Mass: Addison-Wesley, 1967.

Nunnally, J.C. Psychometric theory. New York: McGraw-Hill, 1967.

Patchen, M. The choice of wage comparisons. Englewood Cliffs, N.J.: Prentice-Hall, 1961.

Pelz, D.C., & Andrews, F.M. Scientists in organizations: Productive climates for research and development. New York: Wiley, 1966.

Porter, L.W. Job attitudes in management: I. Perceived deficiencies in need fulfillment as a function of job level. Journal of Applied Psychology, 1961, 46, 375-384.

Rand, A. The objectivist ethics. In Rand, A. The virtue of selfishness. New York: Signet, 1964, pp. 13-35.

Ross, I.C., & Zander, A.F. Need satisfaction and employee turnover. Personnel Psychology, 1957, 10, 327-338.

Saleh, S.D. A study of attitude change and its effects in the preretirement period. Unpublished doctoral dissertation, Western Reserve University, 1962.

Saleh, S.D. A study of attitude change in the preretirement period. Journal of Applied Psychology, 1964, 48, 310-312.

Saleh, S.D. Anxiety as a function of intrinsic-extrinsic job orientation, the presence or absence of observers, and task difficulty. Journal of Applied Psychology, 1971, 35, 542-548.

Saleh, S.D. Personal communication, 1972.

Seeman, M. The urban alienations: Some dubious theses from Marx to Marcuse. Journal of Personality and Social Psychology, 1971, 19, 135-143.

Smith, P.C., & Kendall, L.M. Retranslation of expectations: An approach to the construction of unambiguous anchors for rating scales. Journal of Applied Psychology, 1963, 47, 149-155.

Smith, P.C., Kendall, L.M., & Hulin, C.L. The measurement of satisfaction in work and retirement. Chicago: Rand McNally, 1969.

Von Bertalanffy, L. The theory of open systems in physics and biology. Science, 1950, 111, 23-28.

Vroom, V.H. Work and motivation. New York: Wiley, 1964.

Wanous, J.P., & Lawler, E.E., III. Measurement and meaning of job satisfaction. Journal of Applied Psychology, 1972, 56, 95-105.

Ward, J.H., Jr. An application of linear and curvilinear joint functional regression in psychological prediction. Research Bulletin 54-86, Air Force Personnel Training Research Center, Lackland Air Force Base, Texas, 1954.

Wijting, J.P. A canonical regression of background factors and work values among underpriviledged workers. Unpublished manuscript, Bowling Green State University, 1969.

Wollack, S. The work values of occupational groups: A multiple discriminant analysis. Unpublished manuscript, Bowling Green State University, 1968.

Wollack, S., Goodale, J.G., Wijting, J.P., & Smith, P.C. Development of the survey of work values. Journal of Applied Psychology, 1971, 55, 331-338.

Appendix A: Names and Definitions of the Nineteen Work Itself and Work Environment Elements

Work Itself Elements

Variety - How much your job requires you to do a large number of activities.

Learning New Skills: Necessity - How much you need to learn new skills in order to do your job.

Learning New Skills: Opportunity - How much your job gives you a chance to learn new skills.

Follow-Through - How much your job requires you to keep at a task until it is finished.

Independence: Methods - How much you can act independently to use your own methods, if you are going to do a certain task.

Independence: Pace - How much you can act independently to set your own pace, if you are going to do a certain task.

Goal Clarity - The extent to which you know exactly what you have to do in order to do your job well.

Internal Feedback - Whether you know if you've done a good or a bad job, just from doing the job.

Work Environment Elements

Interpersonal Relations:	Supervisor - How well you get along with your supervisor.
Interpersonal Relations:	Subordinates- How well you get along with your subordinates.
External Feedback -	How often someone else gives me information on whether I've done a good or a bad job.
Job/Person Fit -	The extent to which you feel you are doing the job for which you've been trained.
Job Security -	How secure your job is.
Work Scheduling -	The extent to which you feel the hours of work are unreasonably long.
Salary -	The extent to which you are equitably paid.
Company Policy and Administration-	How well the company is run and how fair it is to its employees.
Status Inside the Company -	The prestige of your job inside the company.
Status Outside the Company -	The prestige of your job outside the company.
Service to Others -	The degree of opportunity to help others.

Appendix B: Work Itself - Work Environment Questionnaire

WORK ITSELF - WORK ENVIRONMENT QUESTIONNAIRE

The purpose of this part of the booklet is to help us understand how you feel about your job. Please make all judgments with reference to your present job, that is, the job on which you are now working. This questionnaire is a measure of your opinions. There are no right or wrong answers.

As you begin reading you will notice that an element or aspect of your job will be named, followed by a definition of that element. Under this you will find five statements which express different amounts of this element.

For example:

1. Interpersonal Relations (Buddies) - How well you get along with your buddies.

    1. I really like the people I work with.
    2. The people I work with make this a better job than it would otherwise be.
    3. Some of the people I work with are difficult to get along with.
    4. If it wasn't for the people I work with, this job would be OK.
    5. Many of my problems at work result from the people I have to deal with.

Read each statement and then choose the numbers of as many statements as describe "how much" of that element is one your job. Now tear out your separate score sheet (next page). Next to the name of each element you will find three blanks. Above the first blank are written the words, "How much is there now?" Write the numbers of the statements that you have chosen in this blank. Above the second column are written the words, "How much do you expect in the future?" Choose the numbers of as many statements as apply and put them in the blank under column 2. Above the third column are written the words, "How important is it to you?" Now notice the top of the scoring sheet. On a scale from 1 to 9 are listed some statements which reflect possible degrees of importance. Please choose one of these numbers and write it in the blank under column 3. Do the same thing for each element until all the blanks are filled.

For example:

	How much is there now?	How much do you expect in the future?	How important is it to you?
Interpersonal Relations	3,4	1,2	7

INTERPERSONAL RELATIONS: SUPERVISOR - How well you get along with your supervisor.

1. My supervisor is insensitive to people.
2. I find it difficult to talk with my supervisor in a meaningful way.
3. My supervisor and I sometimes see eye to eye.
4. I can often talk freely with my boss.
5. I get along well with my supervisor.

INTERPERSONAL RELATIONS: SUBORDINATES - How well you get along with your subordinates.

1. I have extremely poor working relationships with my subordinates.
2. I occasionally get along well with my subordinates.
3. I often get along well with my subordinates.
4. Frequently if not always I get along with my subordinates.
5. My subordinates and I always see eye to eye.

VARIETY - How much your job requires you to do a large number of activities.

1. I do the job the same way every day.
2. This job is often done the same way.
3. This job is sometimes done the say way.
4. Only a small part of my work is routine.
5. Each job I do requires its own unique approach.

LEARNING NEW SKILL: NECESSITY - How much you need to learn new skills in order to do your job.

1. I never have to learn anything new in order to do my job.
2. Occasionally I must learn something new in order to do my job.
3. I often have to learn new things in order to do my job.
4. I'm constantly forced to learn new skills to do this job.
5. It's an absolute must for me to learn new skills if I want to be able to do my job well.

LEARNING NEW SKILLS: OPPORTUNITY - How much your job gives you a chance to learn new skills.

1. There is no opportunity for me to learn new skills on my job.
2. Seldom do I get a chance to learn anything new on this job.
3. Sometimes I get a chance to learn new things on this job.
4. Training is available if I want to learn new skills.
5. If I want to I can learn many new skills on my job.

FOLLOW-THROUGH - How much your job requires you to keep at a task until it is finished.

1. I never get a chance to finish a job I start.
2. Occasionally I get a chance to finish a job I start.
3. Quite often I get a chance to finish a job I start.
4. Frequently if not always I get a chance to finish a job I start.
5. No matter how long it takes I finish each job.

INDEPENDENCE: METHODS - How much you can act independently to use your own methods, if you are going to do a certain task.

1. Even though I know what has to be done, I still can't do it the way I want.
2. People are constantly telling me to do my job the way they think is best.
3. I decide how to do certain parts of the job, but am told how to do the rest.
4. I can choose among a number of ways of doing my job.
5. I use my own judgment in determining how a job is to be accomplished.

INDEPENDENCE: PACE - How much you can act independently to set your own pace, if you are going to do a certain task.

1. I have to work at the pace I'm told.
2. Sometimes I get to do my job at the pace I want.
3. How fast I work depends on how much I have to do each day.
4. Frequently if not always I do my job at the pace I want.
5. I decide how fast I'll work each day.

GOAL CLARITY - The extent to which you know exactly what you have to do in order to do your job well.

1. I have to be constantly asking people what to do on this job.
2. Often it is hard for me to understand what others want me to do.
3. Sometimes it is hard for me to understand what others want me to do.
4. It is clear what someone in my job should accomplish.
5. I clearly understand what I am supposed to accomplish.

EXTERNAL FEEDBACK - How often someone else gives me information on whether I've done a good or a bad job.

1. No one ever tells me how well I've done my job.
2. Once in a while I find out how well I've done my job.
3. Sometimes I find out how well I've done my job.
4. Others often tell me when I've done a good job.
5. Others always tell me when I've done a good job.

JOB/PERSON FIT - The extent to which you feel you are doing the job for which you've been trained.

1. I'm not doing what I've been trained for.
2. Often I feel that I can't use my best abilities on this job.
3. Sometimes I feel that my skills are not fully used on the job.
4. Now and then I feel that my skills are not fully used on the job.
5. This job makes full use of my abilities.

JOB SECURITY - How secure your job is.

1. I never know how long I'll be able to keep my job.
2. Sometimes I think I have a secure job.
3. Employees know they've got to really screw up in order to get fired.
4. You don't have to worry about losing your job when you work here.
5. My job will always be secure.

WORK SCHEDULING - The extent to which you feel that the hours of work are unreasonably long.

1. The hours I work are just right for my job.
2. I seldom feel that my job would be better if there were shorter work hours.
3. Now and then I feel that my job would be better if there were shorter work hours.
4. Very frequently I feel that my job would be better if there were shorter work hours.
5. The hours on my job are much too long.

SALARY - The extent to which you are equitably paid.

1. I'm under paid for the amount of work I do.
2. The job is more important than the income.
3. In order to get a pay boost in this organization, it's "who you know", not "what you know".
4. Salaries are usually reviewed fairly.
5. My pay is more than fair for the work I do.

COMPANY POLICY AND ADMINISTRATION - How well the company is run and how fair it is to its employees.

1. This company treats it's employees rotten.
2. Working here you seldom if every feel that the company cares about you.
3. Some of the time you feel that the company cares about you.
4. Employees are nearly always treated fairly by management.
5. This company gives all it's employees a fair shake.

INTERNAL FEEDBACK - Whether you know if you've done a good or a bad job, just from doing the job.

1. I never know if I'm doing a good job or not.
2. It is clearer on some parts of my job than on others, how well I am doing.
3. At the end of each day I can tell how well I've done.
4. I can tell when I'm doing a good job.
5. When I stand back and look at my work, I know immediately whether it is good or bad.

STATUS INSIDE THE COMPANY - The prestige of your job inside the company.

1. Everyone here looks down on my job.
2. A lot of people inside the company look down on my job.
3. Some people inside the company look down on my job.
4. My job is very well thought of in my organization.
5. My job has special prestige in this company.

STATUS OUTSIDE THE COMPANY - The prestige of your job outside the company.

1. It embarasses me when people ask me what work I do.
2. Some people outside the company don't think much of my job.
3. A lot of people think I have an important job.
5. Outside people respect me for what I do.

SERVICE TO OTHERS - The degree of opportunity to help others.

1. Doing service for someone is seldom rewarding.
2. Once in a while doing service for someone is rewarding.
3. Doing service for someone is frequently rewarding.
4. I like to find out that people are well off because I've done my job.
5. On this job you know that you are doing something to help other people.

The Management Research Center (MRC) conducts selected programs of research in individual, small group, and organizational psychology with special emphasis on the study of managerial behavior in industrial organizations. Through enlarging our understanding of how today's manager deals with increasingly complex organizational problems, the Center hopes to furnish behavioral foundations for the development and education of the manager of the future. Grants from the Ford Foundation, the Office of Naval Research, the Esso Educational Foundation, the Department of Transportation, and the Rochester Youth Board have supported this effort.

Transnational studies of managerial behavior in standardized organizational simulations are being conducted by MRC in conjunction with the International Research Groups on Management (IRGOM).

MRC maintains a bank of data collected at training centers in over 35 countries, and provides cooperating agencies with assistance in experimental design, statistical analysis, and data collection.

MRC conducts other research at the interface of man and his organization. Currently, interest is focused on self-instructional methods for increasing interest and ability in self development, woman at work, motivation to work, human integration of information for decision-making, selection and training models, driver decision-making in emergency situations, and the accelerated manager.

MRC distributes its archival publications in a reprint series. It distributes its technical reports in a separate series to expedite the dissemination of its research findings.

OTHER TECHNICAL REPORTS*

1963

1. BASS, B. M. Effects on negotiators of their prior experience in strategy or study groups. *AD 408 128*
2. VAUGHAN, J. A. Surveying the man-in-the-middle of an industrial organization. *AD 420 802*

1964

3. BASS, B. M. Differential response to appraisal and goal setting as a function of self, interaction and task orientation. *AD 600 296*
4. BASS, B. M. Some effects on a group of whether and when the head reveals his opinion. (Also Reprint 67-9) *AD 610 532*

1965

5. BASS, B. M. Reaction of subordinates to coercive, persuasive and permissive supervisors. *AD 610 533*
6. BASS, B. M. Effects on the subsequent performance of negotiators of studying issues or planning strategies alone or in groups. (Also Reprint 66-1) *AD 616 749*
7. BASS, B. M. Personal background and intergroup competitiveness. *AD 616 750*
8. BASS, B. M., McGHEE, W. P., & VAUGHAN, J. A. Three levels of analysis of cost-effectiveness associated with personnel attitudes and attributes. *AD 619 460*

1966

9. BASS, B. M. Social behavior and the orientation inventory: A review. (Also Reprint 67-8) *AD 623 691*
10. BASS, B. M., & WOLPERT, S. Norms for a program of exercises for management and organizational psychology. *AD 627 648*
11. CLAMPETT, JR. H. A. Psychological predictions based on Bayesian probabilities. *AD 630 314*
12. DEEP, S., BASS, B. M., & VAUGHAN, J. A. Some effects on business gaming of previous quasi-T group affiliations. (Also Reprint 67-11) *AD 641 652*

1967

13. BASS, B. M. The interface between personnel and organizational psychology. (Also Reprint 68-3) *AD 649 918*
14. BASS, B. M. Ability, values and concepts of equitable salary increases. (Also Reprint 68-6) *AD 655 428*
15. BASS, B. M. How to succeed in business according to business students and managers. (Also Reprint 68-4) *AD 655 429*
16. HAAS, J. A., PORAT, A. M., & VAUGHAN, J. A. Actual vs. ideal time allocations reported by managers: A study of managerial behavior. (Also Reprint 69-2) *AD 660 693*
17. BARRETT, G. V. The use of perceptual tests in cross-cultural research.

1968

18. BARRETT, G. V. The international research groups on management information system. *AD 667 242*
19. PORAT, A. M. The decision to automate the small commercial bank: A behavioral approach to the analysis of decision-making processes. *AD 667 243*
20. BASS, B. M. When planning for others (Also Reprint 70-2) *AD 675 785*
21. BASS, B. M. A preliminary report on manifest preferences in six cultures for participative management. *AD 675 786*
22. BASS, B. M., THIAGARAJAN, K. M., & RYTERBAND, E. C. On the assessment of the training value of small group exercises for managers. *AD 675 787*
23. THIAGARAJAN, K. M. A cross-cultural study of the relationships between personal values and managerial behavior. *AD 676 521*
24. RYTERBAND, E. C., & THIAGARAJAN, K. M. Managerial attitudes toward salaries as a function of social and economic development.

1969

25. RYTERBAND, E. C. & BARRETT, G. V. Manager's values and their relationship to the management of tasks: A cross-cultural comparison. (Also Reprint 70-5)
26. HAAS, J. Middle-managers' expectations of the future world of work: Implications for management development.
27. BASS, B. M. The American advisor abroad. *AD 700 280*
28. PORAT, A. M. Planning and role assignment in the study of conflict resolution: A study of two countries. *AD 700 281*
29. BARRETT, G. V., & FRANKE, R. H. Communication preference and performance: A cross-cultural comparison. (Also Reprint 69-7) *AD 700 283*
30. THIAGARAJAN, K. M., & WHITTAKER, W. S. Realistic goal setting as a key indicator of entrepreneurship: A cross-cultural comparison. *AD 700 284*
31. THIAGARAJAN, K. M., & PRAHALAD, C. K. Some problems in the behavioral science education of managers and management instructors in developing nations. *AD 700 285*
32. BARRETT, G. V., & FRANKE, R. H. Social, economic and medical explanation of "psychogenic" death rate differences: Cross-national anaylsis. *AD 700 286*
33. THIAGARAJAN, K. M., & DEEP, S. D. A cross cultural study of preferences for participative decision-making by supervisors and subordinates. *AD 700 282*
34. GILES, B. A., & BARRETT, G. V. The utility of merit increases.

1970

35. ALEXANDER, R. A., BARRETT, G. V., BASS, B. M., & RYTERBAND, E. C. Empathy, projection and negotiation in seven countries.
36. BARRETT, G. V., & BASS, B. M. Comparative surveys of managerial attitudes and behavior.
37. BARRETT, G. V., BASS, B. M., & MILLER, J. A. Combatting obsolescence using perceived discrepancies in job expectations of research managers and scientists.
38. IRIS, B., & BARRETT, G. V. Effect of job attitudes upon satisfaction with life.
39. RYTERBAND, E. C., BASS, B. M., DEEP, S. D., & KAYE, R. How to succeed in business according to AIESEC applicants from six countries for work experience abroad.

1971

40. FILELLA, J. F. Exercise life goals: Guess-work or interpersonal perception.
41. BASS, B. M., ALEXANDER, R. A., KRUSELL, J. Selected manager norms (as of September, 1970) for *A program of exercises for management and organizational psychology. AD 726 744*
42. VICINO, F. L., KRUSELL, J., BASS, B. M., DECI, E. L., & LANDY, D. A. The development and evaluation of a program of self-instructional exercises for personal and inter-personal development.

1972

43. MILLER, J. A., BASS, B. M., & MIHAL, W. L. An experiment to test methods of increasing self-development activities among research and development personnel.
44. MILLER, J. A., BASS, B. M., & ALEXANDER, R. A. Preferences and expectations of research and development personnel regarding the future world of work.
45. BARRETT, G. V., BASS, B. M. Cross-national issues in industrial and organizational psychology.
46. BARRETT, G. V., FRANKE, R. H., IRONS, P., COLEMAN, W., WIRSCHEM, L. Trans-national data bank report. *AD 749 106*
47. MILLER, J. A. Concepts and processes in career development: The professional development research program. *AD 749 107*
48. TULLAR, W. L., & JOHNSON, D. F. Group decision-making and the risky shift: A trans-national perspective. *AD 749 109*
49. VALENZI, E. R., MILLER, J. A., ELDRIDGE, L. D., IRONS, P. W., SOLOMON, R., and KLAUSS, R. E. Individual differences, structure, task, and external environment and leader behavior: A summary, August 1, 1972.
50. BASS, B. M., & ELDRIDGE, L. D. Transnational differences in the accelerated manager's willingness to budget for ecology.
51. BASS, B. M., & BASS, R. Ecology in tomorrow's world of work.
52. BASS, B. M. & RYTERBAND, E. C. Work and organizational life in the year 2000.
53. RYTERBAND, E. C., & BASS, B. M. Perspectives on work in the year 2000.
54. RYTERBAND, E. C., & BASS, B. M. Management development.

**IRGOM members may receive technical reports free upon request from the Management Research Center, University of Rochester, Rochester, New York 14627. Nonmembers may obtain these technical reports from the Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, National Bureau of Standards, Springfield, Virginia 22151 by ordering by AD number and prepayment of $3.00 for paper copy or $.65 for microfiche.*